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LIBERIA MUNICIPAL WATER PROJECT (LMWP)

DRAFT YEAR 2 ANNUAL REPORT: OCT. 2012–SEP. 2013
DRAFT QUARTERLY REPORT 4: JULY 2013–SEP. 2013



OCTOBER 2013

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Cover Image: Sign adjacent to rehabilitated water treatment facility and public water point in Robertsport, Liberia. The facility was dedicated in February 2013 and represents the first step in re-establishing piped water in Robertsport after a hiatus of more than two decades and the first ever pilot cost recovery water system in Liberia. Photographer: Edwin Fayia, The Observer Newspaper.

All photos in this report are by Tetra Tech unless otherwise indicated.

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DISCLAIMER

The author's views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

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ACRONYMS AND ABBREVIATIONS

AfDB	African Development Bank
APM	Advanced Participation Methods
CAOP	Communications and Outreach Plan
CAD	Computer Aided Design (Software)
CBO	Community Based Organization
CIP	Capital Improvement Project
COP	Chief of Party
COR	Contracting Officer's Representative
DCOP	Deputy Chief of Party
EHELD	USAID/Liberia Excellence in Higher Education in Liberian Development
EMMP	Environmental Mitigation and Monitoring Plan
EOI	Expression of Interest
ePORT	electronic Program Observation Reporting and Tracking
ESIA	Environmental and Social Impact Assessment
EWG	Engineering Working Group
GF	Gender and Facilitation
GIS	Geographic Information System
GoL	Government of Liberia
HCC	Host Country Contracting
HR	Human Resources
IEE	Initial Environmental Examination
IIU	Infrastructure Implementation Unit
ISR	Institutional Strengthening and Reform
IWASH	USAID/Liberia Water, Sanitation, and Hygiene Project
LHS	Liberia Hydrologic Service
LISGIS	Liberia Institute of Statistics and Geo-Information Services
L-MEP	USAID/Liberia Monitoring and Evaluation Program
LMWP	USAID/Liberia Municipal Water Project
LSC	Local Steering Committee
LWSC	Liberia Water and Sewer Corporation
M&E	Monitoring and Evaluation
MLME	Ministry of Lands, Mines and Energy

MoF	Liberia Ministry of Finance
MoHSW	Liberia Ministry of Health and Social Works
MoPEA	Ministry of Planning & Economic Affairs
MoPW	Ministry of Public Works
MOU	Memorandum of Understanding
MT	Medium Term
NGO	Nongovernmental Organization
NWRSB	National Water Resources and Sanitation Board
NWSHPC	National Water, Sanitation and Hygiene Promotion Committee
O&M	Operation and Maintenance
PMP	Performance Monitoring Plan
PMU	Project Management Unit
PPCC	Liberian Public Procurement and Concessions Commission
QA/QC	Quality Assurance / Quality Control
QIP	Quick Impact Project
RFI	Request for Information
RFP	Request for Proposals
SA	Situational Analysis
ST	Short Term
STA/M	Senior Technical Advisor/Manager
STTA	Short-Term Technical Assistance
SOP	Standard Operating Procedure
SUWASA	USAID Sustainable Water and Sanitation in Africa
TOR	Terms of Reference
TWG	Transition Working Group
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
UWSSP	Urban Water Supply and Sanitation Program
WASH	Water, Sanitation and Hygiene
WSSC	Water Supply & Sanitation Commission

1.0 INTRODUCTION

The Liberia Municipal Water Project (LMWP), funded by the United States Agency for International Development (USAID), is supporting the design, tendering, execution and operation of water supply infrastructure improvements in the cities of Robertsport, Sanniquellie, and Voinjama in Liberia. LMWP is assisting local and national authorities in developing plans for urban water supply and sanitation improvements, implementing water supply infrastructure improvements, and re-establishing local capability to sustainably operate and maintain the water supply improvements. During the four-year project base period, it is the goal of LMWP to help establish improved water supply access in each city, with infrastructure managed by locally-based entities capable of financially and technically sustaining the service. The improved water systems will provide public health and economic development benefits in the three target cities.

The project coordinates with the Government of Liberia (GoL) through the Liberia Water and Sewer Corporation (LWSC), Ministry of Lands, Mines and Energy (MLME), Ministry of Public Works (MoPW) and other ministries, agencies, and county and local authorities.

Tetra Tech and subcontractors implemented Year 2 of LMWP under USAID Contract No. EDH-I-00-08-00027 - Task Order # AID-669-TO-11-00002.

This Year 2 Annual Report (and 4th Quarterly Report) summarizes the activities and tasks completed during the 12-month project period October 1, 2012 through September 30, 2013.

The outline of this Annual Report reflects the recommendations provided to LMWP by USAID in its comments on July 15, 2013.

2.0 EXECUTIVE SUMMARY OF YEAR 2 ACCOMPLISHMENTS

2.1 HIGHLIGHTS OF KEY ACCOMPLISHMENTS DURING YEAR 2

2.1.1 ADMINISTRATIVE ACCOMPLISHMENTS SUMMARY

- **Engaged with new LWSC leadership** in November 2012 after a leadership vacuum of approximately four months, during which progress on technical and institutional issues were delayed.
- Hired **Deputy Chief of Party (DCOP)** (local), **Senior Engineer** (local), **Program Manager/Water Quality Specialist** (local), **Finance Assistant** (local), **Water Supply Engineer** (expatriate), **Procurement and Subcontracting Specialist** (local - started October 2013), and selected candidate for new **M&E Specialist** (expect November 2013 start).
- **Field Office space identified in Sanniquellie, Voinjama and Robertsport** including assessment of former treatment facilities for possible use as temporary offices for LMWP and LWSC.
- **Planning for relocation of engineers to field offices** during the next year to oversee construction phase of project implementation, including identification of staff to be relocated.
- **LMWP main office relocated from Congo Town to Sinkor** to facilitate coordination and collaboration with LWSC, USAID, and other stakeholders.
- Deployed Tetra Tech's **electronic Program Observation Reporting and Tracking (ePORT) system for LMWP** to streamline and facilitate project data collection and information sharing via tablet computers and cloud-based data storage.
- **Developed draft Standard Operating Procedures (SOP) and reporting protocol for engineering field staff** including processes and procedures for monitoring and reporting on schedule, technical progress, payment requests, and quality. The SOP incorporates ePORT to enable Monrovia and US-based remote oversight of construction activities via text and geo-referenced photos.

2.1.2 TECHNICAL ACCOMPLISHMENTS SUMMARY

Task 2: Plans for Staged Water Supply and Sanitation Infrastructure Improvements

- Completed **Master Plans for Sanniquellie and Voinjama**. (Robertsport Master Plan was submitted in Project Year 1)
- **Presentation of Master Plans to all stakeholders** including the Engineering Working Group (EWG), Transition Working Group (TWG), and Local Steering Committees (LSC) in a series of meetings in each target city and Monrovia in early 2013.

Task 3: Institutional Framework for Water Provision

- Completed **National and Local Stakeholder Participatory Consultation Report** summarizing stakeholder consultation throughout LMWP.

- Planned and facilitated **six (6) Transitional Working Group (TWG) Workshops** with national and local stakeholders to define an institutional framework for outstation management and oversight.
- Signed **Memorandum of Understanding between the Liberia Municipal Water Project (LMWP) and the Liberia Water and Sewer Corporation (LWSC)** and adopted “**Internally Delegated Area Management Contracts**” as the institutional framework, centered on principles of autonomy, accountability, sustainability and cost-recovery.
- **MOUs between LWSC and each target City successfully negotiated to define the role of local municipalities in monitoring an oversight of water services provision.** This represented an important and tangible step toward implementing the intent of the Liberia National Policy on Decentralization and Local Governance. The MOUs are awaiting signature.
- Conducted **cost of service study in partnership with USAID-funded Sustainable Water and Sanitation (SUWASA) Project** aimed at establishing effective long-term tariff modalities for water service in the Robertsport and Kakata Outstations, with potential application in other Liberian cities.
- Conducted **capacity gap assessment of Local Steering Committees** leading to the establishment of a capacity building plan for LSCs.
- Provided **logistics and communications support to Local Steering Committees** in all three target cities throughout the year.
- Hosted regular **Engineering Working Group Meetings** to facilitate local review and input on designs simultaneously by all relevant GoL entities including LWSC, MLME, and MoPW.

Task 4: Capital Works

- **Design, construction, and dedication of a water treatment facility and public water point in Robertsport**, representing the first step in re-establishing piped water after a hiatus of more than two decades and the first ever pilot cost recovery water system in Liberia. The successful dedication ceremony also served as the **LMWP official project launch**. The event was presided over by **Liberian President Ellen Johnson Sirleaf**.
- Subcontracted with a Liberia Environmental Protection Agency (EPA)-certified local firm and conducted **Environmental and Social Impact Assessment (ESIA)** including project brief, application to EPA, Notice of Intent, draft scoping report, national level stakeholder consultations, and draft ESIA report.
- Completed **hydrogeological studies and test well drilling in Sanniquellie and Voinjama** with local subcontractors.
- Completed **engineering land surveys in all three target cities** with a local subcontractor.
- Initiated **geotechnical investigation** field work with a local subcontractor.
- Completed draft **designs for Short Term infrastructure improvements in Robertsport**. Given required timeframes for tendering via USAID Direct Contracting and the administrative burdens associated with multiple procurements, USAID subsequently directed LMWP to combine the previously proposed Short Term (ST) and Medium Term (MT) projects into a single project, now referred to as the Capital Improvements Project, or CIP.
- Completed draft **plans, specifications, basis of design report (BODR), and draft tender documents for Capital Improvement Projects (CIP)** and submitted package to LWSC and USAID for review. The designs are intended to achieve 90% service coverage and feature innovative use of



February 15, 2013 public water system dedication in Robertsport, Liberia. Pictured left to right holding ribbon: Managing Director of the Liberia Water and Sewer Corporation, Charles Allen; Chief of Party for the Liberia Municipal Water Project, Alioune Fall; Her Excellency President Ellen Johnson Sirleaf; and USAID/Liberia Mission Director, Patricia Rader. Photographer: Edwin Fayia, The Observer Newspaper.

solar energy to reduce operation and maintenance costs, align with local ability to pay and achieve cost-recovery.

- Completed **final design and procurement for Robertsport Fanti Town Pipeline Extension and requested USAID consent to subcontract**. The Mission Environmental Officer (MEO) approved the LMWP-developed Environmental Mitigation and Monitoring Plan (EMMP) for the project.
- **“Mini-Systems” final design package submitted to LWSC and USAID for review**, including a narrative to facilitate presentation to the LWSC Board, plus detailed plans, specifications and BODR for the first two proposed locations.
- **Initiated tendering process for CIP** via USAID’s publication of the LMWP-drafted Request for Information (RFI). LMWP evaluated all submittals and provided analysis to USAID.

Task 5: Transitional Management of Water Supply Improvements

- Continued successful outreach efforts to gain **acceptance and support at all GoL levels for core elements of water utility sustainability, including cost recovery, local autonomy and accountability**. In her remarks during the LMWP project launch, President Ellen Johnson Sirleaf expressed support for managing water utilities on a cost-recovery basis and directly asked the County Superintendent to go out and explain that “those who use it must pay for it and it should be well maintained”.
- Developed an **online billings database for testing by LWSC and other development partners** including African Development Bank and World Bank, Water and Sanitation Program (WSP).
- Conducted a **capacity gap assessment of the Local Steering Committees (LSCs)**.
- Developed **Draft Operation and Maintenance Manual** and **Draft Financial Management Procedures Manual** for Robertsport water treatment facility and kiosk.
- Provided **technical assistance to LMWP in setting a cost recovery tariff and management procedures** for the new Robertsport facility, including establishment of a **local utility bank account** for water sales revenue. The current arrangements represent the first time LWSC has agreed with local authorities to “ring-fence” accounts so locally generated utility revenue is used for local utility costs.
- Provided **direct staffing support to operation, maintenance, and oversight** of the new Robertsport system, including provision of a full time engineer supporting system operations. The system has been continuously providing chlorinated water to Robertsport residents for seven months.
- **Performance Contract Template** provided to LWSCA and Ministry of Finance for adaptation into a formal agreement between GoL and the LWSC Board for oversight and management of water-related assets. This template is intended to take advantage of momentum afforded by President Sirleaf’s adoption of performance contracting as a means to improve accountability of Ministers.

Task 6: Capacity Building

- **LMWP internal training for project staff** including technical aspects of water systems engineering, computer software, and construction - through classroom training, active participation in producing designs, sketches and drawings for various components of the systems, and “shadowing” field work including hydrogeological and geotechnical investigations and land survey, plus participation in internal and external training events on procurement, accounting, USAID environmental compliance and monitoring and evaluation.
- **Continued technical mentoring** through the Engineering Working Group (EWG) meetings in the reviews of technical documents and drawings.
- **Training and facilitation in stakeholders’ consultations and local organizational development** through the establishment of Local Steering Committees (LSCs) in the respective project cities. LWSC has consequently adopted the same model for the African Development Bank (AfDB) Urban

Water Supply and Sanitation Program (UWSSP) working in three other secondary cities, including establishment of LSCs in those cities and participation in LMWP-organized TWG meetings.

- **Development of a Capacity Building Program for Local Steering Committees (LSCs)** to be implementing in the next year.
- Planned and hosted **six (6) highly participatory Transition Working Group workshops** in Monrovia and the target cities including presentations and discussion of best practices in water utility institutional arrangements and management, including decentralization.
- **Procurement training** for LMWP and LWSC Staff;
- **Operator training** for Robertsport facility staff;
- In addition to continued regular attendance at National Water Sanitation and Hygiene Promotion Committee (NWSHPC) meetings, LMWP participated in **Liberia's first Annual WASH Sector Review** and the **Launch of Liberia's National WASH Sector Investment Plan and Capacity Development Plan**. LMWP provided logistical and financial support to the Organizing Committee for the WASH Sector Review.

Task 7 - Coordination with Other USAID Programs

- **Cooperation with the USAID-funded SUWASA project** to fund the Robertsport Fanti Town Pipeline Extension and provide support regarding establishment of cost recovery tariffs.
- LMWP Jointly organized a series of **WASH Policy Dissemination Workshops** throughout Liberia with the USAID/I-WASH project.
- **Continued coordination and cooperation with the AfDB's UWSSP**, including technical support provided by LMWP for the establishment of **Local Steering Committees (LSCs) in the UWSSP target cities according to the LMWP model and their participation in the TWG workshops in all three target cities**.

3.0 UPDATES ON Q4 PLANNED ACTIVITIES AND STATUS OF CONTRACTED TASKS

3.1 QUARTER 4 PLANNED ACTIVITIES UPDATE

Table 3-1 presents the activities that were planned for project Year 2 Quarter 4 and their current status.

Table 3-1. LMWP Quarter 4 Activities Summary

ACTIVITY	TIMELINE	STATUS
Conduct TWG 7 in Voinjama	July	Completed
Finalize drafts of Management Contracts for Outstations	August	Pending Finalization of LWSC-Target Cities MOUs
Reissue tender documents for Fanti Town Pipeline Extension in Robertsport	July	Completed
Pursue EIA process and other USAID Environmental Requirements	July-August	Completed
Finalize LWSC/Cities MOUs	July	Negotiations completed; Finalization pending LWSC agreement to schedule signing ceremony
Hold Internal Work planning Session	August	Postponed per USAID direction pending finalization of USAID procurement mechanisms for CIP
Commence implementation of trainings as per the capacity needs assessments for LSCs	August	Pending finalization of LWSC-Target Cities MOUs
Begin construction for Robertsport Immediate Action Plan / July 26 Initiative	August	Draft Contract awaiting USAID consent to contract
Finalize recruitment for Procurement / Subcontracting Specialist and Liaison Officers	July	Interviews Completed, Hiring pending finalization of field offices
Relocation of engineers and opening of field offices in target cities	August	Robertsport Resident Engineer on-site and Monrovia staff relocation to occur November 2013; Sanniquellie and Voinjama pending Mini-Systems construction timing
Implementation of Outreach and Awareness Plans	August	Pending cooperation and finalization with LWSC
Household Water Quality Testing for Chlorine Residual at Point of Use	August-September	Postponed until next quarter

3.2. STATUS OF CONTRACTED TASKS

Following is the list and status of each of the eight (8) Tetra Tech contracted tasks.

Table 3-2. Status of Contracted Tasks

No.	TASK	STATUS
1	Situational Analysis	Completed
2	Plans for Staged Water Supply and Sanitation Infrastructure Improvements	Completed
3	Institutional Framework for Water Provision	Completed pending finalization of LWSC-Target Cities MOUs
4	Capital Works	Ongoing
5	Transitional Management of Water Supply Improvements	Ongoing
6	Capacity Building	Ongoing
7	Coordination with Other USAID Programs	Ongoing
8	Planning and Reporting	Ongoing

4.0 UPDATED STATUS OF CONTRACT DELIVERABLES

STATUS OF LMWP YEAR 2 DELIVERABLES			
No.	Deliverable	Contract Due Date	Date Submitted / Notes
Task 1: Situational Analysis (Completed in Year 1)			
Task 2: Plans for Staged Water Supply and Sanitation Infrastructure Improvements			
1	National and Local Stakeholder Participatory Consultation Reports	October 31, 2012	December 21, 2012
2 (b)	Master Plan for Sanniquellie	November 15, 2012	November 15, 2012
2 (c)	Master Plan for Voinjama	December 15, 2012	December 15, 2012
Task 3: Institutional Framework for Water Provision			
3	Report on TWG Workshop 2 - Selected Institutional and MOU Frameworks	October 31, 2012	October 29, 2012
4	Signed MOUs documenting Agreed-To Frameworks LWSC/TT MOU, LWSC/Cities	January 30-March 31, 2013	LWSC/TT June 27, 2013; LWSC/cities MOU pending
Task 4: Capital Works			
1	Preliminary Design	September 30, 2012(Short-Term); December 31, 2012(Medium-Term)	In March 2013, USAID first revealed expected funding levels for construction and timing of funding availability. Tetra Tech adjusted its approach accordingly and submitted preliminary ST designs in July 3, 2013. Given required timeframes for tendering via USAID Direct Contracting and administrative burdens associated with multiple procurements, in August 2013 USAID directed LMWP to combine the ST and MT projects into a single project, now referred to as the Capital Improvements Project, or CIP. The CIP design package was submitted September 30, 2013 as agreed with USAID and per USAID direction.
2	Final Design	November 30, 2012 (Short-Term); July 31, 2013 (Medium-Term)	CIP Final Design to be submitted November 2013 as agreed with USAID.

STATUS OF LMWP YEAR 2 DELIVERABLES			
No.	Deliverable	Contract Due Date	Date Submitted / Notes
3	Tender Documents and Award Confirmation	January 31, 2013 (Short-Term); October 30, 2014 (Medium-Term)	Draft tender documents submitted February 2013; Draft CIP-specific tender documents submitted September 30, 2013. NOTE: Tetra Tech is not directly responsible for procurement. USAID Direct Contracting is expected to be utilized for CIP construction. Issuance of tender and award confirmation depend on finalization of procurement mechanism, process, and USAID timeline which is pending finalization as of October 2013.
4	Field Construction Reports	February 28, 2013-June 30, 2015	Pending
5	Final Acceptance ¹	April 30, 2013 (Short-Term); February 28, 2013 (Medium-Term)	Pending, but no longer applicable because phases now combined into the single CIP.
Task 5: Transitional Management of Water Supply Improvements			
1	Local Management Entity (LME) Business Plans (includes specific capacity building/training)	February 28, 2013(Short-Term); May 31, 2013(Long-Term)	Pending - dependent on final system design, MOU finalization, and management contracts.
2	Sustainability Monitoring Plan (Financial and Operational)	March 31, 2013(Short-Term and Long-Term)	Pending – dependent on final system design and MOU finalization, and management contracts.
3	Reports from monthly Feedback/Evaluation Meetings Monthly	Monthly, starting April 30, 2013	Pending – dependent on systems coming online
4	Sustainability Monitoring Reports (includes M&E data and roll up from feedback/evaluation meetings) Monthly	Monthly, starting April 30, 2013	Pending – dependent on systems coming online
5	Operator Audit Reports Biannually	Biannually, starting April 30, 2013	Pending – dependent on systems coming online
6	Additional Transitional Management activities in Quarterly and Annual Reports		Ongoing
Task 6: Capacity Building			
3	Final Capacity Building Plan, corresponding with MOUs	February 28, 2013	Pending MOU finalization and coordination with AfDB
4	Capacity Certification Report for FAA 611(e)	January 31, 2013(Short-Term); October 31, 2013(Medium-Term)	In process
5	Additional Capacity Building activities reporting in Quarterly and Annual Reports		Ongoing
Task 7: Coordination with other USAID Programs			
2	Coordination Meetings	Quarterly (or as needed)	Ongoing
3	Additional Coordination activities reporting in Quarterly and Annual Reports		Ongoing

¹The rainy season (roughly May through October) may impact the Situational Assessment and construction schedule.

Task 8: Planning and Reporting			
2(a)	Second Annual Work Plan & Procurement Plan	November 5, 2012	Implementation Schedule - August 31, 2012; Full Work Plan - May 23, 2013; Revised Work Plan - June 28, 2013
2(b)	Subsequent Annual Work Plans & Procurement Plan	Annually by September 1	August 30, 2013 (Year 3)
3	Progress Meetings	Weekly (proposed)	Ongoing
4(a)	First Annual Progress Report	November 16, 2012	June 4, 2013
4(b)	Quarterly and Annual Progress Reports	Quarterly, 30 Calendar Days after the end of each quarter; Annually, on October 30	Yr. 2, Q1 – June 14, 2013 Yr. 2, Q2 – June 14, 2013 Yr. 2, Q3 – July 30, 2013 Yr. 2, Q4 – This report
5	Quarterly and Annual Financial Reports	15 calendar days before the end of each fiscal quarter; the fourth quarter financial report will serve as the annual report	Yr. 2, Q1 – Dec. 14, 2012 Yr. 2, Q2 – Mar. 12, 2012 Yr. 2, Q3 – June 14, 2013 Yr. 2, Q4 – Sept. 16, 2013
6	Other Special Reports	As needed	Ongoing

5.0 RESULTS REPORTING²

INDICATOR NUMBER	INDICATOR TITLE	PERIOD	Q1	Q2	Q3	Q4	Half-Year	End Year	Annual	NOTES
MWP1.1:2	Number of outreach activities implemented to solicit input during planning or inform customers on new procedures or services	Quarterly	12	13	12	3	NA	NA	NA	
MWP1.1:1	Number of new policies, laws, agreements, regulations, or investment agreements (public or private) that promote access to improved water supply and sanitation	ANNUAL	NA	NA	NA	NA	NA	NA	4	PIRS for this is not finalized but calculations for FY2013 are as follows: 3 Master Plans, 1 MOU = 4. City MOUs were not completed this calendar year as envisioned.
MWP1.2:1	Number of people gaining access to an improved drinking water source	Quarterly	TBD	TBD	TBD	TBD	NA	NA	NA	For portfolio review in July 2013, LMWP estimated 350 people gaining access in Robertport as of March (Q2) based on sales at the refurbished treatment facility. However, the definition has since been modified per recent PMP discussions with USAID and the baseline is to be redefined per a new household and source survey in Y3.
MWP1.2:2	Number of operational large water systems	Quarterly	0	0	0	0	NA	NA	NA	Large systems to come online in Y4.

² LMWP has not received feedback on the updated PMP submitted in October 2013. LMWP is therefore reporting on previous indicators and numbering is as listed in recent requests for information from USAID.

INDICATOR NUMBER	INDICATOR TITLE	PERIOD	Q1	Q2	Q3	Q4	Half-Year	End Year	Annual	NOTES
MWP1.2:.3	Number of operational mini water systems	Quarterly	0	1	0	0	NA	NA	NA	Robertsport small treatment facility and kiosk is counted as a mini system. It came online in FY13 Q2.
MWP1.3:.1	Number of persons trained in utility management and technical systems	SEMI-ANNUAL	NA	NA	NA	NA	0	2	NA	Vendor and payment clerk trained in Robertsport
MWP1.3:.2	Number of local steering committees routinely monitoring water supply services	Quarterly	0	0	0	0	NA	NA	NA	Robertsport has a small operational treatment facility and the LSC is currently provides oversight/monitoring. However, this will not be official until the LWSC-City MOUs are completed so until then, this will remain zero.
MWP1.3:.3	Number of procedural manuals developed.	Quarterly	0	2	0	0	NA	NA	NA	Robertsport O&M Manual and Financial Procedures Manual.
MWP1.3:.4	Number of outstations with an updated billing system adopted and used by LWSC	Quarterly	0	0	0	0	NA	NA	NA	
MWP1.3:5	Water Utility Capacity Building Score (based on Water Utility Capacity Building Tool)	ANNUAL	NA	NA	NA	NA	NA	NA	NA	NA until outstations established.
MWP1:.1	Percent of population using an improved drinking water source	ANNUAL	NA	NA	NA	NA	NA	NA	TBD	LMWP previously provided figures for portfolio review in July 2013 (9% in Robertsport). However, the definition has since been modified and baseline is to be redefined per new HH and source survey, so TBD is appropriate here.

INDICATOR NUMBER	INDICATOR TITLE	PERIOD	Q1	Q2	Q3	Q4	Half-Year	End Year	Annual	NOTES
MWP1::2	Percent of operating expenses covered by customer charges without external subsidies	ANNUAL	NA	NA	NA	NA	NA	NA	R: 61%	Due to delays on MOU, Robertsport tariffs are currently deposited in escrow, with no withdrawals. However, 61% cost recovery is estimated for the year based on facility operational costs (3 staff and chlorine) and revenues. Figures assume costs for an LWSC-provided plant supervisor, although this is currently being funded by LMWP. Revenue exceeded costs initially, but sales fell off in second half of the year as rains increased.

6.0 CHALLENGES, OPPORTUNITIES, AND RECOMMENDATIONS

6.1 CAPITAL WORKS FUNDING AND PROCUREMENT METHOD

The LMWP contract includes exploration of Host Country Contracting (HCC) mechanisms for the procurement of the construction phase. Construction is not directly permitted under the A&E IQC. The LMWP contract states that “Construction contracts will be drawn between the GOL, in the case of host country procurement, and the construction contractor, or if host country system contracting is not possible, USAID and the construction contractor.” As part of the Situational Analysis report submitted in May 2012, LMWP conducted an assessment of the suitability of Liberia’s public procurement systems for host country contracting under LMWP, which identified the limitations in the existing host country systems for construction procurement in the water sector.

On March 8, 2013, USAID provided LMWP a memorandum with the subject, “Technical Direction on Budget Limits on Medium-Term Construction Plans,” which provided the first estimate of available funding for construction. The memorandum noted that funding will be available to implement the Short-Term interventions as proposed in the Master Plans (estimated cost USD \$7.4 million), but that as little as USD \$6 million and as much as USD \$22 million may be available to fund the Medium-Term interventions (estimated required cost USD \$36 Million) during the base period (through FY 2015). Additional funds may be available during the two-year option period. LMWP adjusted its approach to design accordingly based on this direction.

In May 2013, USAID clarified to LMWP that it intends to utilize direct contracts for the construction of the Short Term and Medium Term works and that it expects to contract all the Short Term works via a single contract, and all the Medium Term works via a single contract.

Through discussions with USAID in May and June 2013, as clarified in LMWP’s June 6, 2013 memorandum to USAID, it was determined that a total envelope of \$27.7 Million USD was the estimated maximum potentially available for construction based on expected USAID funding availability. It was also determined that up to \$10 Million could be available for the ST project in the coming project year.

Given required timeframes for tendering via USAID Direct Contracting and the administrative burdens associated with multiple procurements, in August 2013 USAID directed LMWP to combine the previously proposed Short Term and Medium Term projects into a single project (now referred to as the Capital Improvements Project, or CIP). LMWP adjusted its approach to development of both design and tender documents per this direction.

Also in August 2013, USAID informed LMWP that USAID is recruiting for a full time engineer or contract specialist to manage the contract administration process on USAID’s side. No timeframe for this hiring was provided.

Some portions of the proposed infrastructure works are expected to be procured by means other than USAID Direct Contracting. USAID, LMWP, and LWSC are currently exploring the possibility of procuring the proposed “Mini-Systems” portion of the Short Term works via Fixed Amount Reimbursable Agreements (FARA) with LWSC. A decision on whether or not to use FARA is pending and therefore tendering and construction of “Mini-Systems” is pending.

To date, the financing and procurement mechanisms for construction of the Mini-Systems and CIP have not been finalized. LMWP expects this will contribute to additional delays and make it tenuous for LMWP to accomplish a central task order performance indicator, specifically the successful transitioning to operational and financial sustainability of the systems to be constructed by the end of the four-year task order. In August 2013, USAID acknowledged that delays in key aspects of project implementation have been and continue to be resultant from a lack of finalization by USAID on the critical issue of construction procurement arrangements, which is not within LMWP’s manageable interest.

Delayed finalization of procurement methods has resulted in delays in the implementation of project activities, notably the proposed ‘quick impact’ projects (Fanti Town Pipeline Extension and “Mini-Systems”). This has generated frustration and disappointment from both local communities and LWSC, and has had an adverse impact on LMWP-LWSC relations.

LMWP suggests that USAID prioritize identification of a contracting method by which LMWP can work with LWSC to quickly construct the first two proposed Mini-Systems. LMWP can provide additional STTA support with regard to contracting options to expedite this process as needed. Getting infrastructure in place in each city during 2014 (the Fanti Town Pipeline Extension in Robertsport and Mini-Systems in Sanniquellie and Voinjama) will greatly improve relations with LWSC and enable LMWP to maintain buy-in and strong relations with each target city, which is critical for long term success. It will also be important in terms of capacity building, because it will allow LMWP to work hand-in-hand with LWSC on the entire tangible process of procurement, construction management, operations and maintenance, tariff setting, financial management and accounting, and community engagement and customer relations. It will also provide LWSC a reason to hire Outstation staff in advance of the CIP, which can be trained by LMWP. As noted above, no Outstation staff currently exist, so LMWP does not have staff to train in the target cities.

6.2 HOST COUNTRY STAKEHOLDER EXPECTATIONS REGARDING LMWP SCHEDULE AND OUTPUTS

Uncertainty about the timeframe for the finalization of the procurement and funding mechanisms for the construction phase is likely to cause additional delays in the construction of the facilities. LMWP must consent additional efforts to managing expectations at the national level (LWSC) and at the local level (LSCs and other stakeholders).

The project is behind the originally planned schedule for completion of designs for the major (Medium Term) works by approximately four months. The project mobilized in November 2011, about 23 months ago³. The original contract timeframe for finalizing designs for the Medium Term improvements was “20 Months from Effective Date of Award”. Complete designs for all proposed infrastructure improvements in all three cities are expected to be finalized in November 2013, or about 24 months after mobilization.

³ Initial mobilization was postponed several weeks due to looming civil unrest in Liberia surrounding the Presidential runoff election.

Final designs are complete for proposed initial infrastructure interventions in all three cities (Robertsport Fanti Town Pipeline Extension, and Mini-Systems in Sanniquellie and Voinjama). The Robertsport contract is awaiting USAID consent to subcontract. A contracting method has yet to be finalized for the Mini-Systems.

The LMWP schedule has been impacted by several challenges and LMWP has mitigated them to the extent feasible. These challenges include two vacuums in LWSC leadership as noted below, including a four-month period when LWSC was without a Managing Director (MD) or Deputy Managing Director for Technical Services (DMD-TS). This leadership gap caused delays in achieving consensus on an institutional framework, a contractual prerequisite for construction. In addition, LMWP first received information on the timing and overall envelope of funding available for construction in March 2013, approximately 16 months after mobilization. The expected funding was significantly less than the capital cost estimate for the infrastructure LMWP had planned, so significant design and phasing adjustments were required. LMWP received clarity on USAID's proposed contracting method in August 2013, about 21 months after mobilization. This approach included combining all infrastructure into a single tender package, which required LMWP to adjust its approach to packaging the designs and preparing the draft tender.

The African Development Bank (AfDB)-supported Urban Water Supply and Sanitation Project (UWSSP) is operating in parallel to LMWP to re-establish water infrastructure in three other county capitals (Buchanan, Kakata, and Zwedru). It is worthwhile to note that UWSSP began in 2009 and released its tender for major construction in September 2013. LMWP expects to be ready to release its tender for major works in the coming few months. Therefore, in only two years, LMWP has effectively “caught up” to UWSSP, which has been doing similar work in three other cities for approximately four years.

In recent months, LWSC has compared the LMWP project to UWSSP. Although LMWP has been provided with relatively little information on UWSSP, Tetra Tech understands that UWSSP has provided LWSC with vehicles and other equipment, and is essentially re-establishing the same infrastructure that existed prior to the conflict. This is apparently being done without extensive analysis of: the appropriateness of that infrastructure in the current context; local stakeholder considerations including ability and willingness to pay; and sustainability concerns such as establishing institutional frameworks to ensure accountability. LMWP has tried to convey to LWSC that the USAID and AfDB projects are different in their approaches and that LMWP did not include provision of vehicles and similar items. It is also different in that LMWP is required to ensure that institutional frameworks are in place prior to construction, and that the installed systems recover operational costs to ensure sustainability. These differences appear to have resulted in some frustration and confusion on the part of LWSC management.

6.3 LACK OF INSTITUTIONAL FRAMEWORK FOR WATER SECTOR

The lack of an existing operational and institutional framework for urban water services in Liberia necessitated that additional efforts be expended to develop new approaches or adapt existing approaches. This has provided an opportunity for LMWP to suggest and adapt best practices in the water sector, essentially starting from “a clean slate” with regard to outstation operations. It has also required many months of hard work to achieve consensus.

Per the LMWP contract, USAID cannot undertake construction of major infrastructure until the institutional framework is finalized. This includes the all-important MOU between LWSC and the target cities laying out the role of local communities in oversight of management and operations. This requirement is intended to ensure that US government investments are not squandered because systems are not in place to adequately manage and maintain the installed infrastructure.

Given that the UWSSP project began in 2009, LMWP expected to “follow in their footsteps” in terms of institutional arrangements that would have been established for outstations per that work. However, apparently no such institutional arrangements were established under UWSSSP. Instead, UWSSP has now been directed by LWSC to utilize the Local Steering Committee (LWC) model developed by LMWP in conjunction with LWSC. LMWP has since supported LWSC to establish LSCs in each of the three AfDB target cities (Buchanan, Kakata, and Zwedru) and has included representatives from these LSCs in all LMWP-sponsored Transition Working Group (TWG) workshops since January 2013.

Given that draft designs and tender documents for the CIP are complete, LWSC may soon be responsible for delaying tendering of the major works because the final MOU is not yet in place. LMWP respectfully suggests that USAID officially clarify to LWSC that USAID cannot commence tendering for the CIP until the institutional framework is finalized, including signed MOUs.

6.4 LWSC COOPERATION, ENGAGEMENT AND RESPONSIVENESS

During the second half of Y2, LMWP has not been able to meet regularly with LWSC for project coordination purposes. Our weekly meetings have been replaced by ad-hoc and "emergency" meetings to deal with pressing issues such as those related to the MOUs and the RobertSPORT operation. LMWP has not been successful in convincing LWSC to resume the weekly coordination meetings. Scheduled meetings are usually cancelled at the last minute which has made it difficult to accomplish a number of critical project activities including the finalization of the LWSC-target city MOUs, finalization of the CIP designs, management of the RobertSPORT facility, and the rolling out of the public awareness and communications campaign with LWSC.

The Deputy Managing Director for Technical Services (DMD-TS), LMWP's primary counterpart throughout the negotiation of the MOUs, was on medical leave for over three months (April through June 2013). This created a vacuum which affected the negotiation process for the MOUs and delayed the finalization of the institutional framework. This vacuum followed a longer vacuum of approximately four months ending in November 2012 during which the LWSC Managing Director and DMD TS positions were both vacant. LMWP's contract requires that all documents and designs be approved by both GOL and USAID. Achieving consensus on institutional arrangements and technical designs was not possible during these LWSC leadership gaps and resulted in delays. In regards to the institutional framework, this has turned out to be very tenuous as the new administration at LWSC has been reluctant to approve of and undertake the commitments and agreements made by the previous LWSC administration.

Some attempts at capacity building for LWSC have not been successful due to a lack of participation and commitment from LWSC. For example, it was agreed that LWSC staff would “shadow” the SUWASA technical experts during their visit in June regarding cost of service and tariffs. LWSC failed to provide their staff for this purpose until the last day of the visit. Subsequent requests for information from these “shadows” to support the cost of service and tariff work were not responded to in a timely manner by LWSC, including scheduling the upcoming workshop and trainings.

Regarding coordination of overall capacity building efforts, LWSC has not been responsive or active in its role as lead of a Capacity Building Task Force. A tripartite meeting was held in December 2012 between USAID, LMWP, and LWSC. The objective of the Task Force was development of a detailed capacity building strategy for LWSC that would combine AfDB plans for capacity building and that of USAID/LMWP in order to better leverage resources, avoid duplication of activities and ensure better coordination. A work plan was established and Phase 1 was data collection from both projects to be followed by harmonization of the activities. The first two meetings held in January 2013 dealt with this aspect. LWSC was responsible for the finalization of the institutional frameworks for the various outstations, determining the human resource requirement for each of the outstations - including those to

be established under AfDB support; establishing the quality of staff required for the management, operation and maintenance of the outstation; and the type of training required based on the Capacity Building assessments conducted by LMWP and AfDB. This has yet to be done. LWSC intimated to LMWP that it will not provide such information until the MOUs were signed at which time LWSC would be in the position to finalize the collation and harmonization of the capacity building plan before LMWP proceeds to Phase 2, development of the strategy.

Since this time, LWSC has not convened a meeting, despite several friendly reminders from LMWP to move this Task Force process forward. The latest follow-up from LMWP for the resumption of the Task Force meetings were made on July 16, 2013 with the DMD/Administration; and most recently the October 9, 2013 during a meeting with Frankie Cassel, the LWSC Deputy Managing Direct for Technical Services and Hne Coleman, the LMWP Project Liaison.

LMWP continues to have significant concerns regarding LWSC's lack of responsiveness to requests for information, review, and input, and a lack of dedicated staff time to the project. Limited cooperation and commitment from LWSC present a significant risk to successful project implementation. LMWP requests that USAID ask LWSC to reinstate weekly meetings with LMWP, including LWSC Senior Management capable of making decisions on behalf of the company. LMWP also requests that USAID ask LWSC to ensure that the recently hired LWSC-LMWP liaison works directly with LMWP every Monday and Wednesday at LMWP's offices as agreed. LMWP has offered to provide transportation for Mr. Coleman for these meetings, and more recently has offered to pay for fuel if he uses his own vehicle. Thus far, the liaison has not adhered to this schedule. Finally, LMWP requests that USAID ask LWSC to hire and field a plant supervisor for the Robertsport treatment facility and water kiosk.

The LWSC-LMWP liaison position was suggested by LMWP and was initially envisioned to be a LMWP hire, but LWSC decided to make the hire itself. This was a very encouraging development, but unfortunately LMWP has thus far been disappointed with the result. LMWP is willing to make another hire to bolster this coordination, or second one if its engineers to work from LWSCs offices a few days a week, or to consider any other creative solutions.

LMWP suggests that a regular monthly USAID/LMWP/LWSC "tripartite" meeting be scheduled to enhance implementation of the project by clarifying issues such as those discussed above. This meeting could also be used to discuss issues which require USAID's direct input, such as construction procurement methods and funding availability, in order to ensure all parties have a shared understanding. If USAID must meet separately with LWSC, LMWP respectfully requests that significant decisions are delayed until consulting with Tetra Tech/LMWP.

LMWP respectfully suggests that USAID limit offers to provide equipment or supplies to LWSC via LMWP that were not envisioned in the original contract. Although the LMWP budget may be able to support these costs, LMWP is concerned that LWSC may use this type of support as leverage in delaying signature of MOUs or other commitments from their side.

Moving forward, LMWP sees great potential for relations to improve in the short term, partly based on important strides forward by LMWP and LWSC in recent weeks and expected developments in the coming months. The Robertsport minor office improvements have been undertaken, which should clear the way for LWSC to hire its own operator for the facility. The Robertsport Fanti Town Pipeline extension will begin once USAID provides consent to subcontract. The designs for the Mini-Systems and large Capital Improvement Projects are under review by USAID and LWSC. If LMWP is able to complete construction of several Mini-Systems in addition to the Robertsport Fanti Town Pipeline extension in 2014, this visible infrastructure progress and cooperation will give a boost to our working relationship with LWSC as well as the target cities. The upcoming in-country LMWP work planning

session will also offer an opportunity to get LMWP and LWSC back on the same page and lay out a shared vision and plan for the coming year.

6.5 LSC SUPPORT

Since the middle of Y2, specifically during the TWG meetings, there have been verbal expressions of discontent by members of the Local Steering Committees (LSCs) who wished to be remunerated for their services in support of the process. Though LMWP has explained that it is not in a position to offer remuneration to steering committee members for their participation in meetings, this has contributed to a lowering morale from local stakeholders and seems to have dampened their willingness to work in implementing the project's activities.

One of the key challenges faced by the local steering committees since their inception has been the lack of adequate operational and logistical support for their activities. To address this, in TWG 5, the LSCs were asked to submit proposed budgets to facilitate their activities. The process was facilitated by the LMWP M&E Specialist and a three month quarterly work plan for each LSC was submitted, reviewed and finalized. Their plans mainly focused on awareness raising campaigns about the benefits of the project in each location; and a proposed amount for logistical support for the interim period where a system of cost recovery is not yet in place. Consistent with proposed budgets and activities, each LSC was provided with logistical support in the form of one fully registered mobile phone connected to the LMWP's internal VPN network, paper, pens, and ledgers.

6.6 LAND RIGHTS AND LAND ACQUISITION

Responsibility for resolving land-related issues associated with water source development and construction resides with LWSC. This includes ensuring ownership or easement rights to land for proposed Mini-Systems, the Robertsport Fanti Town Pipeline Extension and the CIP infrastructure. LMWP is supporting LWSC in its efforts to engage with local authorities to secure rights, but this process has been slow, existing land rights frameworks are unclear, and documentation provided thus far for Robertsport does not appear to be sufficiently detailed. LMWP is concerned about potential conflicts during construction if land issues are not adequately addressed in advance of construction.

6.7 LOCAL MUNICIPAL WATER CONSTRUCTION CAPACITY

The capacity of local vendors and construction contractors to conduct municipal water supply work and also to comprehensively respond to standard tenders has proven to be limited in Liberia. This has been directly evidenced by LMWP's experience with the Robertsport Fanti Town Pipeline Extension project, the Robertsport office minor repairs, and the local IT equipment procurement. All three procurements required multiple rounds of tendering to get responsive bids. Given the fact that no municipal water infrastructure has been constructed in the target cities for decades, local contractor capacity will need to be developed during the course of the project with LMWP's assistance. However, the limitations in available local capacity will be a hindrance to timely completion of the work and will necessitate the use of regional and/or international contractors.

6.8 LOCAL HUMAN RESOURCES CAPACITY AND PROJECT STAFFING

Identifying and retaining qualified staff continues to be one of LMWP's biggest challenges given capacity limitations in Liberia and competition for scarce human resources, particularly with regard to engineering staff. LMWP lost two senior engineers this year, one to LWSC, and the other to another donor project

(Swedish Feeder Roads Project). After many months of searching for an appropriate local candidate, LMWP moved ahead with hiring an expatriate Water Supply Engineer for this critical position. The lack of Liberian engineers with experience in design and construction of municipal water infrastructure has necessitated increased reliance on home office support for design. LMWP is also planning to utilize ePORT during construction to enable remote monitoring of construction and provision of technical guidance to Liberian field staff by Monrovia-based and Home Office-based engineering staff. LMWP also plans to expand its search regionally for a Water Utility Operations and Institutional Specialist.

7.0 DETAILED ACTIVITIES AND IMPLEMENTATION SCHEDULE STATUS

The completion status of accomplishments versus Year 2 Work Plan is provided in the following sections by Task. Note that Task 1 (Situational Analysis [SA]) was completed in Project Year 1 and formed the basis for Master Planning and essentially all subsequent work.

7.1. TASK 2 – PLANS FOR STAGED WATER SUPPLY AND SANITATION INFRASTRUCTURE IMPROVEMENTS

Master Plans for each city were submitted as follows: Robertsport – August 31, 2012; Sanniquellie – November 15, 2012; and Voinjama – December 15, 2012. The Master Plans were informed by the Situational Analysis and include a logical sequence of water supply, treatment, storage, distribution, and source protection measures and long-term sanitation goals. The plans include provisions for operation, maintenance, human resources, and associated costs and initial assessment of affordability and sustainability.

To achieve both of LMWP's overarching goals (90% access and full operation and maintenance [O&M] cost recovery); we determined during the Master Planning process that in Voinjama and Sanniquellie, where primary reliance on gravity for distribution is not possible due to topography, a viable solution is to utilize solar power. Diesel power would otherwise be required due to a lack of available grid power. Diesel would represent the single largest operational cost in those two cities and would make the systems cost prohibitive from an operational standpoint. This is in addition to other drawbacks of diesel including challenges associated with the logistics of regular delivery and storage and safety. LMWP reasoned that solar, although expensive in up-front capital costs, was a viable option because capital funds would be available from USAID for this up-front cost. Essentially, using solar would increase up-front capital costs, but greatly reduce operation and maintenance costs, thereby enabling achievement of the O&M cost recovery goal.

In December 2012, LMWP provided a memorandum to USAID summarizing the planning level cost information presented in the Draft Master Plans for each target city along with expected operation and maintenance costs and household level costs. The overall planning capital cost estimate was USD \$44 million, including USD \$7.4 million for short-term projects and USD \$36.2 million for medium-term improvements.

In March 2013, USAID clarified that its total expected funding envelope for capital works funding associated with LMWP was estimated by USAID to be \$27.7 Million USD, and an approximate schedule for availability of funds. Based on this direction from USAID, LMWP suggested modifications to the Short Term projects to match expected funding levels and timing. Given required timeframes for tendering via USAID Direct Contracting and the administrative burdens associated with

multiple procurements, USAID directed LMWP to combine the previously proposed Short Term and Medium Term projects into a single project, which is now referred to as the Capital Improvements Project, or CIP.

Since initial submission of the Master Plans, comments were received from LWSC, USAID, and stakeholders, and USAID has provided technical direction (March, May, and August 2013) with regard to budget availability and combining Short and Medium Term Projects into a single project (CIP). These changes have been incorporated directly into detailed designs.

Activities under this task during Year 2 focused mostly on the following:

- Completion of the Master Plans by City and presentation to national and local stakeholders
- Environmental and Social Impact Assessment (ESIA)
- Additional field investigations required for detailed designs (land survey, hydrogeological and geotechnical investigation, test wells, water sampling)

Table 7-1. Task 2 Accomplishments vs. Year 2 Work Plan

Task 2: Plans for Staged Water Supply and Sanitation Infrastructure Improvements	Completion Status
Master Planning	
Draft Sanniquellie Master Plan submitted	100%
Draft Voinjama Master Plan Submitted	100%
Present Master Plans and discuss with local and national stakeholders	100%
National and Local Stakeholder Participatory Consultation Report	100%
EMMP / EIA	
Submit Project Brief and Application for Permit to EPA	100%
Publish RFP in papers	100%
Bid Review	100%
Contract Negotiations	100%
Contract Signed	100%
Notice of Intent Published	100%
Scoping Report	100%
Draft EIA/EMMP	100%
Final EIA/EMMP	100%
Public Meeting	100%
ADDITIONAL ENGINEERING FIELD WORK	
Engineering Field Survey	
Receive and Evaluate bids	100%
Negotiate and Award Contract (1 contract for 3 towns)	100%

Task 2: Plans for Staged Water Supply and Sanitation Infrastructure Improvements	Completion Status
Robertsport Survey	100%
Sanniquellie Survey	100%
Voinjama Survey	100%
Geotechnical Investigations	
Prepare Scope of Works	100%
Publish RFQs	100%
Receive and Evaluate Bids	100%
Negotiate and Award Contract (1 contract for three towns)	100%
Robertsport Investigation	Ongoing
Sanniquellie Investigation	Ongoing
Voinjama Investigation	Ongoing
Ongoing Water Quality and Quantity Testing	
Robertsport	Ongoing
Sanniquellie	Ongoing
Voinjama	Ongoing
HYDROGEOLOGICAL SURVEY	
Sanniquellie	
Conduct Hydro geological Assessment	100%
Review Results from Hydro geological Assessments and Establish Drilling Program	100%
Hydro geological Assessment and Test Well Drilling Report	100%
Voinjama	
Receive and Evaluate bids	100%
Award and Negotiate Contract for Hydro geological/Test Well Drilling Works	100%
Conduct Hydro geological Assessment	100%
Review Results from Hydro geological Assessment and Establish Drilling Program	Drilling TBD
Hydro geological Assessment and Test Well Drilling Report	Drilling TBD

7.2. TASK 3 – INSTITUTIONAL FRAMEWORK FOR WATER PROVISION

Since project start-up, LMWP has worked in partnership with LWSC, the Ministry of Lands, Mines and Energy (MLME), the Ministry of Public Works (MoPW); local, district, and county authorities; and community-based organizations (CBOs) to begin developing and working to reach consensus on the institutional arrangements under which the water services improvements will be managed. The deliverable from this task was an “agreement on the specific legal, regulatory and institutional

arrangements for supporting operation and maintenance of these water supply improvements.” This agreement, which is required prior to construction of the major works, would be defined in Memoranda of Understanding (MOU) between LMWP and LWSC and between LWSC and each target city.

Following the establishment during Year 1 of the national level Transition Working Group (TWG) and Local Steering Committees (LSCs) to represent each target city, activities under this task in the second year focused on drafting and finalization of the MOUs. A series of six Transition Working Group (TWG) workshops were held throughout the year in Monrovia and in each respective target city, culminating in signing of the MOU between LMWP and LWSC in July, 2013. Table 7-2 summarizes the objectives and outcomes of the respective TWG workshops conducted during the second year.

The signed MOU attests to LWSC’s commitment to operating the outstations on a cost recovery basis with both revenues and expenses effectively "ring-fenced" and with full involvement of the local stakeholders in a monitoring function. LWSC has agreed to an "Internally Delegated Area Management Contract" (IDAMC) approach for the management of the outstations. LWSC has adopted cost recovery as a driving principle for its operations overall and for the management of the outstations in particular. This is a great achievement in the Liberian context where the water sector is highly fragmented without a dedicated Ministry of Water responsible for overall sector policy.

An illustrative diagram of the selected institutional framework is included in Figure 7-1. This arrangement will entail the signing of a Management Contract between LWSC headquarters and each Outstation Management Team (OMT - to be established). The IDAMC will be attested to by the LSCs. The signed IDAMCs will stipulate the specific performance requirements expected from the local OMT and will be incentive-based where managers could be rewarded with a bonus package if they achieve over the minimum contracted performance standards. Additional details of the framework, including drafting of IDAMCs will be developed as part of Task 5.

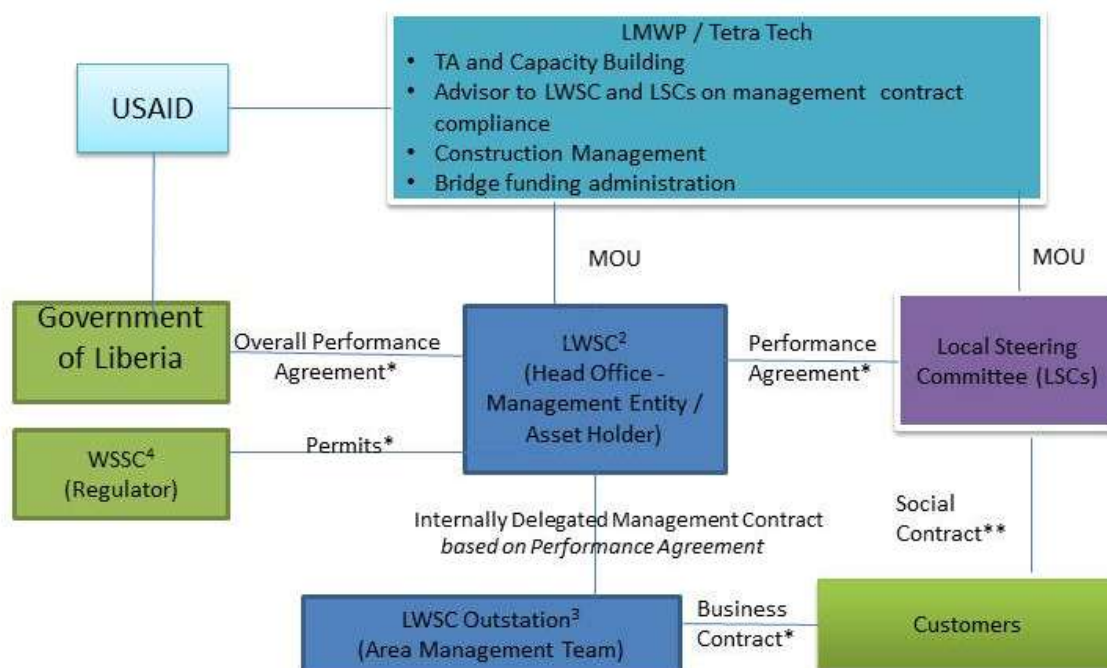
Through the TWG process, the LWSC-Target Cities MOUs were negotiated successfully over the course of the year. Unfortunately, LWSC has not agreed to set a date for final signature of these agreements. The negotiation and drafting of the MOUs has taken considerable time and efforts from all sides and was made more challenging by the management vacuum at LWSC at the beginning of Year 2 and subsequent management staffing changes at LWSC. These and other project related challenges are discussed in Section 7.

In addition to the organization of the TWG meetings, the LMWP team conducted a number of additional stakeholder consultations with individual communities. Following the inauguration of the Immediate Water Services Improvement project in March 2013 in Robertsport, LMWP conducted outreach activities to promote awareness and sensitize residents about the availability of safe drinking water and issues of the system's sustainability. In a bid to carry out activities designed under the communication and outreach plan, activities marking the launch kicked off in Robertsport on Thursday April 18-19, 2013 with several interviews, town hall meeting with a cross section of the residents, and meeting with water vendors. Table 7-3 lists the outreach activities conducted by quarter.

Following discussions with Finance Minister Amara Konneh during an informal meeting with the LMWP COP, LMWP provided Minister Konneh with a template for a Performance Contract that could be adapted to develop a formal agreement between the Government of Liberia (GoL) and the LWSC Board for the oversight and management of water related assets. This would fit well within the drive by the GoL to use the performance contracting mechanism between the Presidency and government ministries and the

recent signing of the Performance Contracts between the GoL and a number of ministries.^[1] The Board can in turn translate the GoL performance targets into staff contracts, including for those currently on the job and those to be hired. The template performance agreement was also provided to LWSC which is supportive of the idea.

Figure 7-1 Selected Institutional Framework Option



*Formal accountability mechanisms

**Informal/political accountability mechanism

¹ Subject to sector restructuring

² Water management entity as defined per GoL policy for county capitols and cities with >5,000 population

³ Could also be a local authority or private contractor

⁴ Not yet established

^[1] Including Ministers of Foreign Affairs; Health and Social Welfare; Information, Cultural Affairs, and Tourism; Commerce and Industry; Labor, Youth, and Sports; and Internal Affairs.

Table 7-2 Objectives and Outcomes of Transition Working Group (TWG) Workshops in Year 2

Objectives		Outcome
TWG 2 October 16, 2012 Monrovia	<ul style="list-style-type: none"> • To present the key concepts, definitions, and possible options of institutional arrangements as practiced in the water sector. • To provide overview of best practices in water sector institutional arrangements and management; • To discuss core principles for water service provision and relate it to Liberia; • To brainstorm best practices and performance measures for local water operations management, and; • To develop key elements for LWSC --- LMWP Memorandum of Understanding (MOU). 	<ul style="list-style-type: none"> • Presentation of key concepts, definitions, and possible options of institutional arrangements as practiced in the water sector. • Overview of best practices in water sector institutional arrangements and management; • Develop key elements for LWSC/LMWP MOU.
TWG 3 December 11, 2012 Monrovia	<ul style="list-style-type: none"> • To review the draft LWSC–LMWP Memorandum of Understanding (MOU). • To review of the LMWP tasks, achievements and challenges • To plans for the next year • To report on progress on the TWG Process • To provide updates on the stakeholders consultations • To present the draft Master plans for target cities • To discuss proposed institutional framework for community level participation and development of a template for the LWSC/Cities MOU 	<ul style="list-style-type: none"> • Review of draft LWSC–LMWP MOU • Review of the LMWP tasks, achievements and challenges • Update on stakeholders consultations • Finalization of institutional framework for community level participation • Development of a template for the LWSC/Cities MOU
TWG 4 March 21-22, 2013 Robertson	<ul style="list-style-type: none"> • To finalize the institutional framework options for the various initiatives, • To review and finalize the LWSC/LMWP and LWSC/Local Community MOUs, and • To discuss the various Short Term Projects/Initiatives. 	<ul style="list-style-type: none"> • Discussions on proposed institutional framework and review of MOUs.
TWG 5 May 12, 2013 Voinjama	<ul style="list-style-type: none"> • To review and finalize the draft By-Laws of the Local Steering Committee (LSC) and the MOU between Liberia Water and Sewer Corporation (LWSC) and the Local Government Authority (Local City), as well as the mutually agreed-upon framework option. • To review LMWP progress to date, including Robertson Quick Impact Project, LSC updates and upcoming activities, and • To present LMWP-LWSC MOU, including the mutually agreed-upon framework option 	<ul style="list-style-type: none"> • Review of LSC By-Laws of the Local Steering Committee (LSC) and LWSC/LSC MOU • Review of LMWP progress to date, including Robertson Quick Impact Project, LSC updates and upcoming activities.
TWG 6 June 27, 2013 Sanniquellie	<ul style="list-style-type: none"> • To adopt and sign the MOU between the LWSC and LMWP • To review LMWP progress to date, including Robertson operations update, water quality monitoring, LWSC/LMWP short term project plans; recent engineering activities and construction plans; as well as • To finalize LSC By-Laws and LWSC/Local Cities MOU 	<ul style="list-style-type: none"> • Historic signing of the Memorandum of Understanding between the Liberia Water and Sewer Corporation and the Liberia Municipal Water Project.
TWG 7 July 29, 2013 Monrovia	<ul style="list-style-type: none"> • To finalize LSC By-Laws and LWSC/Local Cities MOU • To adopt and sign the MOU between the LWSC and LMWP, as well as • To review LMWP progress to date, including Robertson operations update, capacity building interventions for the LSCs, LWSC/LMWP short term project plans; and recent engineering activities and construction plans. 	<ul style="list-style-type: none"> • Discussions leading to the decision to hold a follow-up meeting with LWSC and LSC to further discuss and agree upon elements within the MOU.

Objectives		Outcome
LWSC/LSC Meeting Aug 13, 2013	<ul style="list-style-type: none"> To review key elements raised on the LWSC/Cities MOU in TWG 7 To establish a consensus and common understanding on various aspects of the agreement To finalize the Draft LWSC/Cities MOU for adoption and signing at TWG 8 	<ul style="list-style-type: none"> Follow up to TWG 7, LWSC/Cities MOU revised to incorporate consensus between all parties. Final draft of LWSC/Cities MOU concluded and adopted for signature at TWG 8.

Table 7-3 Outreach Activities Conducted by Quarter

Qtr.	No.	Date	Description	Location	No. of participants	Categories of participants/activity
Y2 Q1	1.	Oct. 2012	2 nd Transition Working Group(TWG)	Monrovia	34	LSCs, LWSC, MLME,MPW, LISGIS,USAID, LMWP & MOH
	2.	Nov. 2012	All-women Focus Group Meeting	Robertsport	35	Market and business women, NGOs reps., house wives, female local government workers
	3.	Nov. 5-7 2012	Outreach Campaign	Robertsport		Radio talk shows
	4.	Dec. 2012	3 rd Transition Working Group(TWG)	Monrovia	30	LSCs, LISGIS,LWSC, MLME,MPW, USAID, LMWP, Development Supts.(MIA)
Y2 Q2	5.	Jan. 2013	Stakeholders Consultations	Sanniquellie	37	County Superintendent, City Mayor, Representatives from LWSC, USAID, Local Steering Committee, business men and women, local officials, CHT, NGOs
	6.	Jan. 2013	Stakeholders Consultations	Voinjama	74	County Superintendent, City Mayor, Representatives from LWSC, USAID, Local Steering Committee, business men and women, local officials, CHT, NGOs
	7.	June 2012	First Transition Working Group(TWG)	Monrovia	30	LSCs, LWSC, CHF-IWASH, OXFAM, MLME,MPW, LISGIS,USAID, LMWP & MOH
	8.	Jan. 29, 2013	Outreach	Voinjama		Radio Talk shows
	9.	March, 2013	4 th Transition Working Group Meeting(TWG)	Robertsport	44	LSCs, LISGIS,LWSC, MOH, MLME,USAID, MPW, LMWP, Development Supts.(MIA), WARFP,
	10.	2013	Outreach	Sanniquellie		Radio Talk Show
Y2 Q3	11.	April 18-19, 2013	Outreach(Open Square & Town Hall Meetings)	Robertsport	334	City mayor, Supt., Market women, water vendors, local officials, NGOs, fishermen, fish mongers
	12.	May 9, 2013	5 th . Transition Working Group Meeting(TWG)	Voinjama	48	LSCs, LISGIS,LWSC, MOH, MLME,USAID, MPW, LMWP, Development Supts.(MIA),CHT, CHF,LCCC
	13.	June 26,2013	Outreach (Town Hall Meeting)	Voinjama	44	Market women, local officials, LSC, CHT, City Mayor

Qtr.	No.	Date	Description	Location	No. of participants	Categories of participants/activity
	14.	June 27, 2013	6 th Transition Working Group Meeting(TWG)	Sanniquellie	68	LSCs, LISGIS,LWSC, MOH, MLME,USAID, MPW, LMWP, Development Supts.(MIA),CHT, CHF, NCCC
Y2 Q4	15.	July 30, 2013	7 th Transition Working Group Meeting(TWG)	Monrovia	67	LSCs, LISGIS,LWSC, MOH, MLME,USAID, MPW, LMWP, Development Supts.(MIA),City mayors, County Superintendents

A summary of the completion status of Task 3 activities versus Year 2 Work Plan for Task 3 is provided in Table 7-4.

Table 7-4. Task 3 Accomplishments vs. Year 2 Work Plan

Task 3: Institutional Framework for Water Provision	Completion Status
Detail Selected Framework Option	
TWG #2 Workshop - Monrovia	100%
Report on TWG #2 including selected Institutional and MOU Frameworks and Draft MOUs	100%
Negotiation and discussions on draft MOUs	100%
TWG #3 Workshop – Monrovia	100%
TWG #4 Workshop – Robertsport	100%
TWG #5 Workshop – Voinjama	100%
TWG #6 Workshop - Sanniquellie, Sign LMWP/LWSC MOU	100%
Assistance to TWG and LWSC in LWSC/City MOUs	100%
TWG #7 Final Workshop - Monrovia, Sign LWSC/City MOUs	50%

7.3 TASK 4 – CAPITAL WORKS

ROBERTSPORT EMERGENCY IMPROVEMENT PROJECT

In December 2012, LMWP was requested by the new LWSC Managing Director (MD) to support LWSC to repair and repurpose an existing small water treatment facility in Robertsport and establish a public water point. The facility, which is located on the grounds of the former Robertsport municipal water treatment facility, had been constructed and operated by UNMIL to provide water for troops stationed in Robertsport prior to their departure in late 2012. The facility had been providing water to Robertsport residents as well as UNMIL troops, so its abrupt closure resulted in increased hardship for Robertsport residents who relied on the facility.

In early 2013, LMWP worked closely with LWSC to prepare detailed designs, procure materials, repair the former treatment facility, establish a new public water point, and establish a cost recovery tariff and

operation and management procedures with shared responsibility between LWSC and the Robertsport LSC.

On February 15, 2013, the water treatment facility and water point were dedicated in a ceremony presided over by President Ellen Johnson Sirleaf. The event also served as the official launch of LMWP. A draft USAID ‘Snapshot’ was prepared by LMWP regarding the facility and is included in Annex F (still pending USAID approval).



Figure 7-2. New Public Water Point in Robertsport adjacent to Water Treatment Facility established by LWSC with LMWP support. (Photographer: Edwin Fayia, The Observer Newspaper)

ROBERTSPORT PIPELINE EXTENSION TO FANTI TOWN

Given uncertainty regarding the procurement mechanism for immediate works funded by USAID/Liberia, LMWP reached out to the USAID/ Sustainable Water Supply in Africa (SUWASA) program to provide funding via its Small Investment Program (SIP) to fast-track a portion of the proposed next phase of water infrastructure improvements in Robertsport. Funds would be used to construct a portion of the LMWP-proposed short term improvements and also to provide technical assistance related to establishment of cost recovery tariffs. The proposed project includes a pipeline extension of approximately five thousand feet from the existing treatment facility to the more densely populated areas of Robertsport, ending in the Fanti Town neighborhood, with water kiosks constructed along the route. The engineer’s estimate for this work is approximately \$250,000 USD for materials and construction. The project is now referred to as the Robertsport Pipeline Extension to Fanti Town.

After several rounds of tendering and receipt of multiple non-responsive bids or bids from unqualified applicants, negotiations with a construction subcontractor was initiated in Y2 Q4, a draft contract developed, and request to subcontract was submitted to USAID on October 3, 2013. A contract is expected to be in place during Y3 Q1, pending USAID consent to subcontract.

“MINI-SYSTEMS”

LMWP proposed to upgrade nine existing water sources (hand-dug wells and boreholes) through the installation of a solar-powered submersible pump, elevated water storage tank, disinfection system, and water kiosk(s). The kiosks will be metered and staffed to sell water at rates designed to ensure cost

recovery. These “Mini-Systems” have been designed by LMWP in collaboration with LWSC to minimize operation and maintenance costs and minimize operational complexity to ensure sustainability. Locations were identified by LMWP through pump testing as having sufficient yield to support the improvements. One site has been selected in Robertsport, five in Sanniquellie, and three in Voinjama. Draft designs and draft tender documents for a typical Mini-System were provided to USAID for review in Y2 Q3. In Y2 Q4, a final design package was submitted to LWSC and USAID for review, including a narrative to facilitate presentation to the LWSC Board, plus detailed plans, specifications and BODR for the first two proposed locations.

Establishing these Mini-Systems is a critical first step in the process of establishing financially and technically sustainable access to safe drinking water. This small investment in infrastructure will result in a modest increase in access to clean water. However, the primary purpose of installing these systems is to demonstrate that water can be provided on a full cost recovery basis in the Liberian context. They will also serve as a pilot for developing requisite local management systems and capacity, and better understanding user demand and willingness and ability to pay for drinking water services. The city-specific lessons learned from managing these systems will be invaluable as we embark upon establishment of the larger piped systems which will follow. Extensive justification for proceeding with the Mini-Systems was provided to USAID via memorandum on September 6, 2013, and similar justification was included in the narrative description of the Mini-Systems provided to LWSC.

USAID is currently exploring means of procuring construction of the Mini-Systems via different methods, including a Fixed Amount Reimbursable Agreement (FARA) between USAID and LWSC.

3-CITIES CAPITAL IMPROVEMENT PROJECT

As described in Section 6.1, per USAID’s direction, LMWP combined the Short Term and Medium Term Improvements designs and drawings into one package (now referred to as the Capital Improvement Project, or CIP) and make adjustments based on USAID’s expected funding envelope and timing. USAID and LMWP agreed that this complete package based on this direction would be submitted by September 30, 2013. LMWP submitted the CIP package on September 30, 2013 including detailed design drawings, specifications, draft tender documents, and basis of design report. LMWP will review the designs in detail with USAID and LWSC, and expects to finalize the designs by November 2013, pending timely receipt of all comments.

Table 7-5 table provides completion status of the Task 4 activities as per the Year 2 Work Plan.

Table 7-5. Task 4 Accomplishments vs. Year 2 Work Plan

Task 4: Capital Works	Completion Status
Robertsport Emergency Improvement	
LWSC-LMWP discussions re scope of assistance requested	100%
Presentation to USAID	100%
Finalization of funding arrangements with USAID	100%
Clearance from CO re "construction" definition	100%
Procurement, Construction, and Testing	100%
Inauguration by Liberian President	100%
Robertsport Fanti Town Pipeline Extension	
Develop SOW and Plans	100%
Initial engagement with USAID/SUWASA re funding	100%
Finalize SOW and Plans	100%
Develop Bid and Tender Documents	100%
Approval of SUWASA Reform Work Plan	100%
Funds transfer to SUWASA	100%
Tender, Evaluate Bids, Re-Tender, Evaluate Bids	100%

Task 4: Capital Works	Completion Status
Award	Awaiting USAID Consent to Subcontract
Construction	
Short-Term Improvements	
Preliminary Design for ST Improvements	100% (Robertsport)
Preliminary Design Reviews (USAID, LWSC, MoPW)	N/A - Per USAID direction, ST and MT merged into single Capital Improvements Program (CIP).
Final Design for ST Improvements	
Final Design Reviews (USAID, LWSC, MoPW)	Preliminary CIP design and tender documents 100% complete. Design review underway.
Prepare tender documents	
Tendering for ST Improvements	
Establishment of Local Offices	
Robertsport	Planned November 2013
Sanniquellie	Pending Mini-System construction schedule
Voinjama	Pending Mini-System construction schedule

7.4 TASK 5 – TRANSITIONAL MANAGEMENT OF WATER SUPPLY IMPROVEMENTS

Under this task, LMWP is to support management of water system improvements and provide technical assistance, capacity building and financial support for bridge funding during the transition to full autonomy of the Local Management Entity (LSC/LWSC). During the second year, activities under this task have focused on the following:

ROBERTSPORT EMERGENCY IMPROVEMENT PROJECT MANAGEMENT SUPPORT

The Robertsport emergency improvement project (water treatment facility and water point) has been in constant operation since March 2013. Water is being sold at a cost-recovery tariff rate established by LWSC, with assistance from LMWP, based on estimated operation and maintenance costs. LMWP worked with LWSC to develop a cost of service tariff, develop procedures for operation and maintenance of the facility, and to establish financial management procedures including a local escrow account. In addition, LMWP provided a full time staff person based in Robertsport to assist with daily operation, maintenance, and management of the treatment facility and water point. LMWP has also provided additional post-construction support via our Monrovia based engineers who travel to Robertsport as required for troubleshooting and optimization.

In March 2013, the facility sold over 7,000 liters of water per day on average at a cost of \$5 Liberian Dollars (LD) per 20-liter jerrican. Assuming per capita demand of 20 lpcd in accordance with the Robertsport baseline survey, the Robertsport facility was selling enough water in March to serve over 350 people. Sales at the facility increased through April 2013, but then declined starting in May, apparently in correlation to increased rainfall as the annual rainy season commenced. If sales begin to increase this fall as the rains taper off, the impact of the rainy season on demand may be quantified, which is important information to track as LMWP plans the larger infrastructure.

This small facility represents a huge milestone for LWSC and the government of Robertsport. In addition to marking the first step toward re-establishing city-wide piped water, it is also the first full cost-recovery pilot ever implemented in Liberia for public water supply and the first time LWSC has ever agreed with local authorities to have revenues solely dedicated to operations and maintenance and assets replacement costs. This effort is a testing ground for the Liberia National Policy on Decentralization and Local Governance and may lead to a new paradigm for sustainable and effective water utilities management based on full cost-recovery and accountability.

This inauguration and initial success directly supports Liberia's ambitious Agenda for Transformation, a commitment from the nation's highest authorities to prioritize water and sanitation services. In her remarks during the dedication ceremony, President Ellen Johnson Sirleaf expressed her strong support for managing water utilities on a cost-recovery basis to achieve sustainability. She directly asked the County Superintendent to make it his responsibility to go out and explain to the people what this means. For the President, it meant that "those who use it must pay for it and it should be well maintained".

Operations and Maintenance Manual for Robertsport

In March 2013, LMWP developed an Operations and Maintenance Manual for LWSC to serve as a guide for the operation and maintenance of the system. The manual provides guidance to all levels of operators and supervisors at the facility and establishes the roles and responsibilities of the respective staff and standard operating procedures (SOPs) for each position. The Manual is to be used as the basis for training of staff responsible for the facility. The Manual will be expanded to cover new aspects of the system to come on line as the pipeline extension works to Fanti Town and CIP works begin. This will include management of kiosks, valves, fire hydrants, tanks, and other facilities.

Draft Financial Procedures Manual for Robertsport

In line with the recommendations of the TWG, it was agreed between LWSC and the LSCs that all revenues from water sales would be first and foremost dedicated to covering operations and maintenance costs including staff salaries, energy, chemicals, and other costs associated with normal functioning of the water systems in the respective cities. As Robertsport was the first city to benefit from a functioning water system with support from LMWP, a draft "Proposed Procedures for Managing the Robertsport City Water Supply Services Escrow Account" was developed as an appendix to the MOU between LWSC and the LSCs. The manual provides guidance on the procedures for depositing and withdrawing funds from the account. With LMWP's assistance, LWSC established a local account in Robertsport and as per the recommendations of the TWG, the Robertsport LSC is a signatory to the account. The manual is pending approval by LWSC and LSC for finalization.

Water Quality Testing

Since its inception, the Robertsport emergency improvement project has conducted water quality testing with LMWP support. Beyond the extensive initial water quality assessment conducted during the Situational Analysis, LMWP supports sampling for key parameters including total chlorine (TC) and residual chlorine (RC) at multiple locations within the system to ensure water safety. Sample collection was carried out initially by LMWP engineers and the LMWP Water Quality Specialist, then by local plant water operators after training by the LMWP Water Quality Specialist. The EMMP for the proposed Fanti Town Pipeline Extension includes additional sampling parameters and protocols, including sampling at each kiosk. LMWP will assist the local operators and LWSC to implement this plan upon project completion.

LMWP recognizes that water transport in jerricans may compromise water quality. Therefore, LMWP has begun planning for an analysis of residual chlorine in randomized domestic water samples as a next step to determine whether/not water quality standards are maintained at the point of use (household level). The design of this testing program is currently underway and the findings will be reported within the next quarter.

DEVELOPMENT AND TESTING OF ONLINE BILLING SYSTEM FOR LWSC

During the past two quarters, LMWP has worked with LWSC senior management to develop and adapt a billing system for testing by LWSC as an initial phase. The next phase will be to deploy the system to LWSC outstations. The proposed billing system is open source and web-based and provides

information on customers, meters and meter readings, as well as important technical information on the selected water system. This includes daily, weekly, monthly, quarterly and annual water production, energy consumption and hours of operations of the facilities, among other data.

COST OF SERVICE STUDY AND TARIFF SETTING SUPPORT (COLLABORATION WITH SUWASA)

In early 2013, LMWP reached out to the USAID funded Sustainable Water and Sanitation for Africa (SUWASA) project (also implemented by Tetra Tech) to provide specialized support in the area of cost of service analysis and tariff setting. LMWP and SUWASA worked together to draft a Reform Work Plan (RWP) for Liberia per SUWASA's standard operating procedures. The RWP was approved by USAID/Liberia in early April 2013.

The intent of the technical assistance portion of the RWP is develop a cost of service model to be used as a template for outstations and as part of the cost-recovery paradigm adopted by LWSC. Ultimately, this will support the country's water sector institutions to meet a key sector objective— ensuring sustainability of water supply access through promotion of cost recovery in the urban water sector. The specific tasks under the SUWASA-Liberia project include:

1. Develop a methodology for calculating cost of water services as a basis for tariff decision making in LWSC outstations
2. Test the methodology in Robertsport and Kakata
3. Prepare water tariff guidance for LWSC outstations
4. Support expansion of kiosk service in Robertsport (In addition to tariff-related technical assistance the RWP also includes construction funding to fast track the Fanti Town Pipeline Extension in Robertsport because USAID construction funds were not available immediately.)

LMWP has worked closely with SUWASA experts to implement the technical assistance portion of the SUWASA project, including provision of technical and logistical support. A series of visits were undertaken by SUWASA technical staff, with technical and logistical support provided by LMWP, to meet with local stakeholders and gather requisite information to develop a cost of service model and outstation tariff guidance. This included Monrovia-based meetings and field visits to Kakata and Robertsport. The SUWASA technical assistance will culminate in Y3 Q1 with a detailed training on the tariff model for about 15 GoL and LMWP staff, and a related workshop for approximately 40 GoL staff on cost of service analysis and tariff setting.

SUPPORT PREPARATIONS FOR SUSTAINABLE UTILITY MANAGEMENT

Now that the institutional framework is finalized, work can begin in earnest on development of Internally Delegated Area Management Contracts (IDAMCs). In order to initiate this process, the COP circulated a template Performance Contract for discussion that could be adapted to develop a formal agreement between the Government of Liberia (GoL) and the Liberia Water and Sewer Corporation (LWSC) (Board) for the oversight and management of GoL water assets. This would fit well within the recent drive by GoL to use the performance contracting mechanism between the Presidency and government Ministries and the signings of the Performance Contracts between the GoL and a number of Ministries^[1].

^[1] Including Ministers of Foreign Affairs, Health & Social Welfare, Information, Cultural Affairs & Tourism, Commerce & Industry, Labor, Youth & Sports, and Internal Affairs.

A formal mechanism between GoL and LWSC would enable the GoL to establish and monitor tangible performance targets for LWSC and enable the efficient use of available resources. The Board can in turn translate the GoL performance targets into staff contracts for those currently on the job and those to be hired.

Table 7-6. Task 5 Accomplishments vs. Year 2 Work Plan

Task 5: Transitional Management of Water Supply Improvements	Completion Status
Support program for O&M and commercial management (Robertsport Emerg. System)	100%
Initiate process of assistance to LWSC in initial development of IDMACs, performance metrics and targets, Outstation Business Plans and Sustainability Monitoring Plan	100%

7.5 TASK 6 – CAPACITY BUILDING

Ensuring that the requisite technical, regulatory, procurement, and managerial capacity exists to sustainably maintain infrastructure is critical to the success of LMWP and a fundamental strategic pillar for this project. Key capacity building activities undertaken during Year 2 included:

- Continuing training on **basic computer skills** for the LMWP staff (Microsoft Word, PowerPoint, Outlook, etc.).
- **Capital works procurement** training provided by STTA for LMWP and LWSC technical staff.
- **Accounting and procurement** training for administration and finance staff.
- Training for LMWP staff on **monitoring and evaluation**, including using the new **ePORT** system for general data collection as well as specialized information collection such as the planned household survey and engineering field reports.
- Training on **general engineering topics** including pump hydraulics, total dynamic head, static head, pipe friction loss and associated equations, continuity equation of flow, positive displacement pumps, and centrifugal pumps.
- Training for LMWP staff in **AutoCAD** design software.
- **“Shadowing” of engineering survey, and hydrogeological survey and geotechnical subcontractors.**
- Planned and hosted **six (6) highly participatory Transition Working Group workshops** in Monrovia and the target cities including presentations and discussion of best practices in water utility institutional arrangements and management, including decentralization.
- Continued technical mentoring through the **Engineering Working Group (EWG)** meetings including reviews of technical documents and drawings, establishment of project standards, and keeping key stakeholders informed of project progress.
- Continuing collaboration and mentoring during **regular meetings between LMWP staff and local counterparts, particularly LWSC.**
- Additional **engineering and institutional joint team field visits** that included working closely with LWSC staff and local stakeholders to provide mentoring in a variety of topics from engineering monitoring and sampling to community relations and communications. For example, during Q4,

LWSC and LMWP jointly met with Arcelor Mittal on two occasions to design the railroad crossing in Sanniquellie.

- **A Capacity Building Working Group** comprised of staff from LWSC, USAID, AfDB and LMWP was established in February 2013 to establish a training plan matrix and assist in harmonizing LWSC capacity building approach and activities. The Working Group is expected to provide a draft proposal for consideration on the training plan and activities following finalization and signature of the MOUs.
- **Training and facilitation in stakeholders' consultations and local organizational development** through the establishment of Local Steering Committees (LSCs) in the respective project cities. LWSC has consequently adopted the same model for the African Development Bank (AfDB) Urban Water Supply and Sanitation Program (UWSSP) working in three other secondary cities, including establishment of LSCs in those cities and participation in LMWP-organized TWG meetings.
- **Development of a Capacity Building Program for Local Steering Committees (LSCs)** to be implementing in the next year.
- **Operator training** for Robertsport facility staff in system operations, water quality sampling, and financial management.
- In addition to continued regular attendance at National Water Sanitation and Hygiene Promotion Committee (NWSHPC) meetings, LMWP participated in **Liberia's first Annual WASH Sector Review** and the **Launch of Liberia's National WASH Sector Investment Plan and Capacity Development Plan**. LMWP provided logistical and financial support to the Organizing Committee for the WASH Sector Review.
- Procurement of LMWP-requested **Information Technology equipment** is underway.

In addition to formal trainings, regular LMWP interactions with LWSC via hands-on collaboration also constitute capacity building. This includes multiple trips to the field to conduct joint outreach efforts and engineering information gathering, and working closely with LWSC and the Engineering Working Group (EWG) members during regular meetings to review activity plans; engineering criteria, designs and master planning; and jointly conducting procurement as described above for the Fanti Town Pipeline Extension. In addition, LMWP has conducted numerous on-the-job trainings for LMWP's Liberian engineering and technical staff, most of whom are expected to transition to positions within LWSC or related entities within GoL upon project completion to support water supply services in the country. This training has resulted in: promotion of two engineering interns to project engineers; one former LMWP staff was hired by LWSC due to his experience with LMWP, and another was hired by the World Bank; and engineering staff have been considered for scholarship opportunities based on their experience.

The number of formal trainings will increase in the coming year now that the institutional framework has been finalized in accordance with the MOUs, and now that complete draft designs for the Capital Improvement Projects (CIP) in each target city are complete. Given that essentially no LWSC outstation staff currently exists in the three target cities, capacity building activities have thus far only involved LWSC's limited technical staff in Monrovia. Finalizing the institutional framework (software) and the infrastructure plans (hardware) are required to plan an appropriate training program based on requirements of the selected software and hardware. Formal and on-the-job trainings will increase once outstation staff are hired by LWSC. These trainings are currently being planned as part of Year 3 work planning and will be fully vetted with LWSC. Much of the most important capacity building activities will take place by working in tandem with LWSC staff during construction and initial operation of the facilities.

Though needs assessments were conducted separately for national and local level stakeholders, the training programs and activities are designed to be conducted jointly—with the simultaneous participation

of national and local stakeholders. We believe this will ensure the development of an open platform for establishing this nascent institutional framework and system by providing representatives from the different stakeholder communities' opportunities to share their expectations and perspectives, roles, and responsibilities, and develop the requisite accountability and governance mechanisms for the systems to be constructed.

With the adoption of the Internally Delegated Area Management Framework approach, each LWSC outstation, regardless of its funding source (USAID/LMWP or AfDB/UWSSP) will be expected to operate as an individual unit based on the principles of cost-recovery and sustainability. Under this framework, LWSC has outlined a staffing organogram for managing and operating secondary city water supply systems: an Outstation Manager based in Monrovia, as well as a plant operator and technical support staff at each outstation.

A tripartite meeting was held in December 2012 between USAID, LMWP, and LWSC. It was jointly decided at that meeting at the suggestion of LWSC that a Capacity Building Task Force, comprising of representative from LMWP, LWSC and the African Development Bank (AfDB) Urban Water Supply and Sanitation Program (UWSSP) be established with LWSC taking the leadership role. Present at the meeting were: LWSC (Charles Allen, Emmett Watson, Frankie Cassel); USAID (Randolph Augustin, Joan Atkinson); and LMWP (Alioune Fall and Elmos Glay). The objective of the Task Force was development of a detailed capacity building strategy for LWSC that would combine AfDB plans for capacity building and that of USAID/LMWP in order to better leverage resources, avoid duplication of activities and ensure better coordination.

A work plan was established following the meeting and Phase 1 of the strategy was data collection from both projects to be followed by harmonization of the activities. The first two meetings held in January 2013 dealt with this aspect. The data was partially harmonized. What remains outstanding is the determination of the training and capacity gaps, and prioritization of the activities needed to be implemented in the short, medium and long terms. This has yet to be done. LWSC was also responsible for the finalization of the institutional frameworks for the various outstations, determining the human resource requirement for each of the outstations - including those to be established under AfDB support; establishing the quality of staff required for the management, operation and maintenance of the outstation; and the type of training required based on the Capacity Building assessments conducted by LMWP and AfDB. This has yet to be done. LWSC intimated to LMWP that it will not provide such information until the MOUs were signed at which time LWSC would be in the position to finalize the collation and harmonization of the capacity building plan before we proceed to Phase 2, development of the strategy. Since this time, LWSC has not convened a meeting, despite several friendly reminders and nudges from LMWP to move this Task Force process forward.

The current capacity-building task force has the mandate to identify capacity gaps and increase the harmonization of capacity-building efforts across the AfDB/UWSSP and USAID/LMWP vis-à-vis the sustainability of the improved utilities. This capacity-building plan, as defined, provides the opportunity for enhanced coordination, collaboration, and cross-fertilization between the USAID/LMWP and the AfDB/UWSSP, and ultimately can be co-developed and co-implemented to ensure sustainable institutional frameworks across all LWSC secondary cities.

LMWP is currently still working with LWSC to finalize the capacity building plan and harmonize it with capacity development activities envisioned under the AfDB project, specifically as regards to outstations management and establishing the institutional framework for LWSC Monrovia relationships with the outstations.

A summary of accomplishments versus Year 2 Work Plan for Task 6 is provided in Table 7-7.

Table 7-7. Task 6 Accomplishments vs. Year 2 Work Plan

Task 6: Capacity Building	Completion Status
Work with LWSC and AfDB to finalize Capacity Building Plan Corresponding to MOUs	Ongoing with LWSC
Sensitization Campaign on water related issues	Ongoing with LWSC
Finalize Establishment of Local Steering Committees and By-Laws, Identify LSC capacity needs and training program	100%
KAKATA	
Finalize SOW and Work Plan with LWSC	Pending
Establish separate account for Kakata	Pending
Collect Financial Data on system operations	100% (available information has been collected, although limited)
Conduct cost of service analysis	75%
Customer Enumeration (WSP)	100%
Database Development	100%
Billing Software Development	50%
Testing/Training	50%

7.6 TASK 7 – COORDINATION WITH OTHER USAID PROGRAMS

In addition to coordination with other USAID programs, this section includes a report on coordination with other donors.

COLLABORATION WITH OTHER DONORS

LMWP continued coordination with other donor-funded entities, including the AfDB Urban Water Supply and Sanitation Program (UWSSP), with regard to institutional management and capacity building. LMWP supported LWSC in establishing LSCs in the UWSSP target cities. LMWP also coordinated with the Sectoral Investment Plan consultancy by the World Bank Water and Sanitation Program (WSP) that was conducted to assess the financial, technical, and capacity needs for the water sector.

COLLABORATION WITH IWASH ON WASH POLICY DISSEMINATION WORKSHOPS

LMWP, in collaboration with USAID IWASH and the Ministry of Health and Social Welfare, held a series of WASH policies dissemination workshops aimed at sensitizing various stakeholders as to the contents and requirements of the water sector and WASH policies as promulgated by the GoL. The workshop implementation schedule is included in the table below.

<i>Date</i>	<i>Location</i>
August 26 th – 30 th , 2013	Kolba City, Kolahun District, Lofa County
September 2 nd – 6 th , 2013	Sacleapea City, Saclepea District, Nimba County
September 16 th -20 th , 2013	Gbarnga City, Jorquelleh District, Bong County

The workshops highlighted the operationalization and implementation strategy of key WASH and other Policy Documents and resources materials as listed below. The areas of focus for the workshop were as follows: Policy Development and Dissemination; Policy Application and Implementation; Roles and Responsibilities of GOL County and District WASH partners; and Coordination, Monitoring & Supervision.

Policy Documents	Resource Material (Implementation Documents)
<ul style="list-style-type: none"> National Policy on Decentralization and Local Governance National Integrated Water Resources Management policy Water Supply and Sanitation Policy Environmental and Occupational Health Policy Health Care Waste Management Policy 	<ul style="list-style-type: none"> Liberia WASH Compact WASH Sector Strategic Plan The Guidelines for Water and Sanitation Services in Liberia Guidelines for Community-Led Total Sanitation Implementation in Liberia The Liberia Water-point Atlas

Approximately 70 participants were in attendance from the Ministry of Health and Social Welfare; Ministry of Public Works; Ministry of Internal Affairs; Ministry of Education; and the USAID-funded Liberia Municipal Water project. Participants also came from Bong, Lofa, Nimba, and Grand Cape Mount Counties as indicated below.

Agency	Participants
Ministry of Health and Social Welfare	Representative from each Health districts, including the EHTs
Ministry of Public Works	County WASH Coordinators
Ministry of Internal Affairs	Assistant Superintendent for Developments; and District Superintendent/Commissioners
Ministry of Education	Supervisor of Schools
Liberia Municipal Water Project (LMWP)	Three (3) members of each County Local Steering Committee; and Staff including the engineers

Following the deliberation, it was realized that the GOL should encourage other NGOs working in the other parts of the Country to support Government, i.e. , the relevant ministries to support the policies dissemination process. The successful outcome of the workshop should be shared at the national level with the key stakeholders in the sector, for example the WASH Coordination meetings

COLLABORATION WITH SUWASA ON FANTI TOWN PIPELINE, TARIFFS, AND CAPACITY BUILDING

LMWP reached out to the USAID-funded Sustainable Water and Sanitation in Africa (SUWASA) Project to support the Robertsport Fanti Town Pipeline extension project. As part of the SUWASA partnership, a cost of service study of the Robertsport Treatment Plant and the Kakata Outstation was conducted this quarter. The findings of the study will form the basis for tariff setting for improved water systems in the three LMWP target cities and eventually extend to all LWSC outstations. This partnership also includes building LWSC's capacity for tariff setting via a workshop and training.

SUPPORT TO NWSHPC

As part of its continued partnership with the National Water Sanitation and Hygiene Promotion Committee, LMWP served as host to the Committee's monthly meeting for June 2013. Some key issues discussed include progress made on the establishment of the National Water Resources and Sanitation Bureau and well as the need to conduct a technical brainstorming session to further operationalize the WASH Sector Strategic Plan.

USAID COORDINATION

Weekly standing meetings were held between LMWP and USAID/Liberia, and weekly meetings were held between LMWP and LWSC when LWSC was available. These are in addition to other meetings with LWSC and USAID arranged as needed and regular telephone and email communications.

Table 7-8. Task 7 Accomplishments vs. Year 2 Work Plan

Task 7: Coordination with Other USAID Programs	Completion Status
Regular Coordination Meetings with USAID Programs	Ongoing

7.7. TASK 8 – PLANNING AND REPORTING

A summary of accomplishments versus Year 2 Work Plan for Task 8 is provided in Table 7-9.

Table 7-9. Task 8 Accomplishments vs. Year 2 Work Plan

Task 8: Planning & Reporting	Completion Status
Environmental Mitigation and Monitoring Plan (EMMP)	Awaiting USAID comments on ESIA
Annual Progress Reporting	100%
Quarterly Progress Reporting	100%
Quarterly Procurement Plan Update	100%
Quarterly Financial Reporting	100%
Year 3 Draft Annual Work Plan	75% (USAID comments received on draft, in-country work planning session postponed per USAID request until CIP contracting mechanism finalized)
Weekly Meetings with COR	Ongoing

7.8 SHORT-TERM TECHNICAL ASSISTANCE SUPPORT

In-country short-term technical assistance (STTA) was provided this quarter as listed Table 7-10.

Table 7-10. Short-Term Technical Assistance during the Period July–September 2013

Name Role	Start Date Days of LOE	Achievements
Paul Harris <i>Contracts Manager</i>	July 22, 2013 8 days	<ul style="list-style-type: none"> • Trainings on Purchasing, Subcontracting, and drafting of Statements of Work (SOW), for staff based on Tetra Tech's Procurement Handbook, USAID/FAR regulations, and Tetra Tech Standard Operating Procedures (SOP). • Training on identification, tracking, reporting, and ultimate disposition of all USAID Property acquired under LMWP. • Guidance and support on review and approval of invoices submitted by LMWP vendors and subcontractors per Tetra Tech SOPs. • Contractual support for Robertsport SUWASA-funded Small Investment Program (SIP) infrastructure activities.
Emiko Guthe <i>GIS Specialist</i>	Aug. 24, 2013 29 days	<ul style="list-style-type: none"> • Worked with project staff to establish ePORT for LMWP • Hands-on training of trainers for LMWP staff on ePORT. • Continuing home office based ePORT and GIS support
Robynne Locke <i>Monitoring & Evaluation Specialist</i>	August 24, 2013 29 days	<ul style="list-style-type: none"> • Prepared revised Performance Monitoring Plan (PMP). • Supported establishment of ePORT. • Worked with technical staff to develop supplemental household survey. • Conducted field test of survey instrument using ePORT. • Reviewed applications for the LMWP M&E Specialist position, interviewed shortlist, and made hiring recommendations to COP. • Continuing home office based M&E support.
David Favazza <i>Sr. Technical Advisor/Manager</i>	September 7, 2013 14 Days	<ul style="list-style-type: none"> • Technical and administrative support during COP's leave. • Met with LWSC to improve collaboration and communications and advance technical aspects of implementation. • Met with COR, Activity Manager, and Contracting Officer (CO) as follow-up to May 23, 2013 letter from USAID and Tetra Tech response. • Attended regular meetings with USAID and LWSC. • Reviewed Draft Year 3 Work Plan with USAID and comments. • Reviewed status of ongoing efforts by USAID and LMWP to identify a suitable contracting mechanism for "Mini-Systems". • Finalized EMMP for Robertsport Fanti Town Pipeline project. • Finalized revised draft PMP. • Follow-up support on ePORT, finalized draft household survey. • Final interviews for M&E specialist, Procurement and Subcontracting Specialist.
Dimitri Obolensky <i>Project Manager</i>	September 28, 2013 8 Days	<ul style="list-style-type: none"> • Review over 100 applications for Director of Administration and Finance, prepare shortlist, interview them, conduct reference and salary checks, and recommend top three candidates for COP. • Follow up on outstanding administrative items from internal compliance audit. • General administrative assistance to administration and finance team.
Jessica Bennett <i>Accountant</i>	October 6, 2013 7 Days	<ul style="list-style-type: none"> • Train new accountant on Tetra Tech accounting procedures and provide additional financial training to the LMWP accounting unit. • Train new accountant in QuickBooks accounting software, provide follow-up support to other staff on accounting software and Tetra Tech standard procedures. • Follow up on remaining outstanding financial items from internal compliance audit.

8.0 PROJECT MANAGEMENT AND ADMINISTRATION

8.1 STAFFING

Given capacity challenges faced by the project during the first year of the project, Tetra Tech made modifications to the project staffing plan in Year 2 (Y2) to address capacity gaps and ensure higher quality and timely accomplishment of the project's milestones and deliverables.

After the resignation of the Institutional Strengthening and Reform (ISR) Specialist in Y1 Q4, LMWP replaced the ISR Specialist position with a broader **Deputy Chief of Party (DCOP)** role, filled by Liberian Elmos Glay, who started in Y2 Q1. The DCOP position will extend for the duration of the project. In addition to administrative and managerial duties, the DCOP will spearhead the coordination with LWSC specifically as it relates to finalization and implementation of the Capacity Building program.

Given challenges in finding a local Liberian **Water Supply Engineer (WSE)** with requisite qualifications, LMWP hired U.S. expatriate engineer Matthew Harder in Y2 Q3 in this role. Mr. Harder has worked closely with the Lead Engineer (LE) and will take over engineering management duties upon the LE's departure in Y3 Q1, including mentoring and leading the Engineering Design Team (EDT). LMWP hired a new local **Senior Engineer** Mr. Sei Evans Zumba in October 2012, and also promoted two intern Engineers—Dominic Gono and Masnoh Naomi Jallabah—as **Junior Engineers**. LMWP plans to hire additional intern engineers in the coming year. Recruitment is now underway for a **Utility Operations and Institutional Specialist** to support capacity building and institutional support activities.

Senior Engineer Umaru Sesay resigned at the end of Y3 Q2 to take a position with LWSC. Senior Engineer James Reynolds resigned Y3 Q3 quarter to take a position with a project funded by the Swedish International Development Cooperation Agency (SIDA).

The project hired **Program Operations and Water Quality Specialist** Magdalene Matthews in Y2 Q3 to provide additional operations and technical expertise in water quality assurance. She will spearhead the drafting of LMWP water quality protocol and assurance plans for the systems to be designed and constructed, and provide additional support in report reviews and finalization.

LWSC has hired a full-time Project Coordinator for the LMWP project (Hne Coleman), but given limitations in Mr. Coleman's time thus far, LMWP is considering seconding staff to improve communications and cooperation with LWSC.

LMWP hired a **Procurement and Subcontracting Specialist**, Justin Harris, who started work in October 2013 and is assisting with project related procurement and will support field office procurement and CIP and Mini-System related procurement. LMWP also hired a **Finance Assistant**, Benedictus Kun, to provide accounting support to the project. Recruitment is now underway for a **Director of Administration and Finance**.

Recruitment was completed for a new **Monitoring and Evaluation (M&E) Specialist**, and the selected candidate is expected to begin work in November 2013. LMWP's former M&E Specialist, Alfred Drobia, was terminated for cause in August 2013 upon discovering that Mr. Drobia had falsified his Employee Biodata Form (EBD) and associated pay slips from his former employer. Tetra Tech immediately notified USAID of this via email to the Contracting Officer including detailed measures instituted to prevent this from happening again. Notably, the measures include requiring direct verification from prior employers of the applicant-provided salary backup information (typically pay stubs).

The project organizational chart as of the end of Project Year 2 is presented in **Figure 8-1**

8.2 PREPARATION FOR EXPANSION TO FIELD OFFICES

In Project Year 3, we intend to finalize the establishment of field offices in each of the three target cities prior to commencement of major works. The local offices will supervise construction, implement technical assistance and capacity-building activities, arrange logistics, and conduct public information and outreach activities to engage local stakeholders throughout planning and implementation of the construction and operation activities. These offices are expected to transition to permanent offices of the designated local utility management entities once the water systems are operational. As planned, our subcontractor Richards Engineering has identified supervisory construction engineers for each city and we have been working with them on a temporary basis to vet them during Y2. We also identified the Monrovia staff which will relocate to field offices. We conducted and concluded interviews for field liaison officers in each of the target cities who will conduct outreach, logistics, and administration activities. LMWP local offices will also house the respective Local Steering Committees (LSCs) for the project cities. We envision frequent travel of our Monrovia-based staff to the field offices and vice-versa for reporting and coordination purposes. The WSE has developed draft Standard Operating Procedures and reporting protocol and guide for field office staff. It includes detailed expectations on the roles and responsibilities of the field staff during the construction phase, and processes and procedures for monitoring and reporting on the schedule, progress payments, quality, and progress on site. LMWP plans to utilize a mobile technology based platform called ePORT for field reporting activities.

8.3 VEHICLE ACCIDENT

On October 1, 2012, one of the LMWP project drivers (Tedson Togbah) was involved in an accident with the project vehicle. The driver had hit another vehicle and was chased by the owner of the car that was hit. The chase scene caused additional damages and one fatality. LMWP submitted a letter to the Contracting Officer on October 5, 2012, providing a summary of the incident and LMWP's response included repair of the Ministry of Foreign Affairs fence that was damaged in the incident, plans to replace the damaged vehicle, LMWP vehicle use policy, a report on accident victims, disciplinary action of involved staff (termination of Tedson Togba's employment contract and replacement of LMWP's security company), and plans to revise the LMWP vehicle use policy change to ensure that an accident of this nature does not occur again.

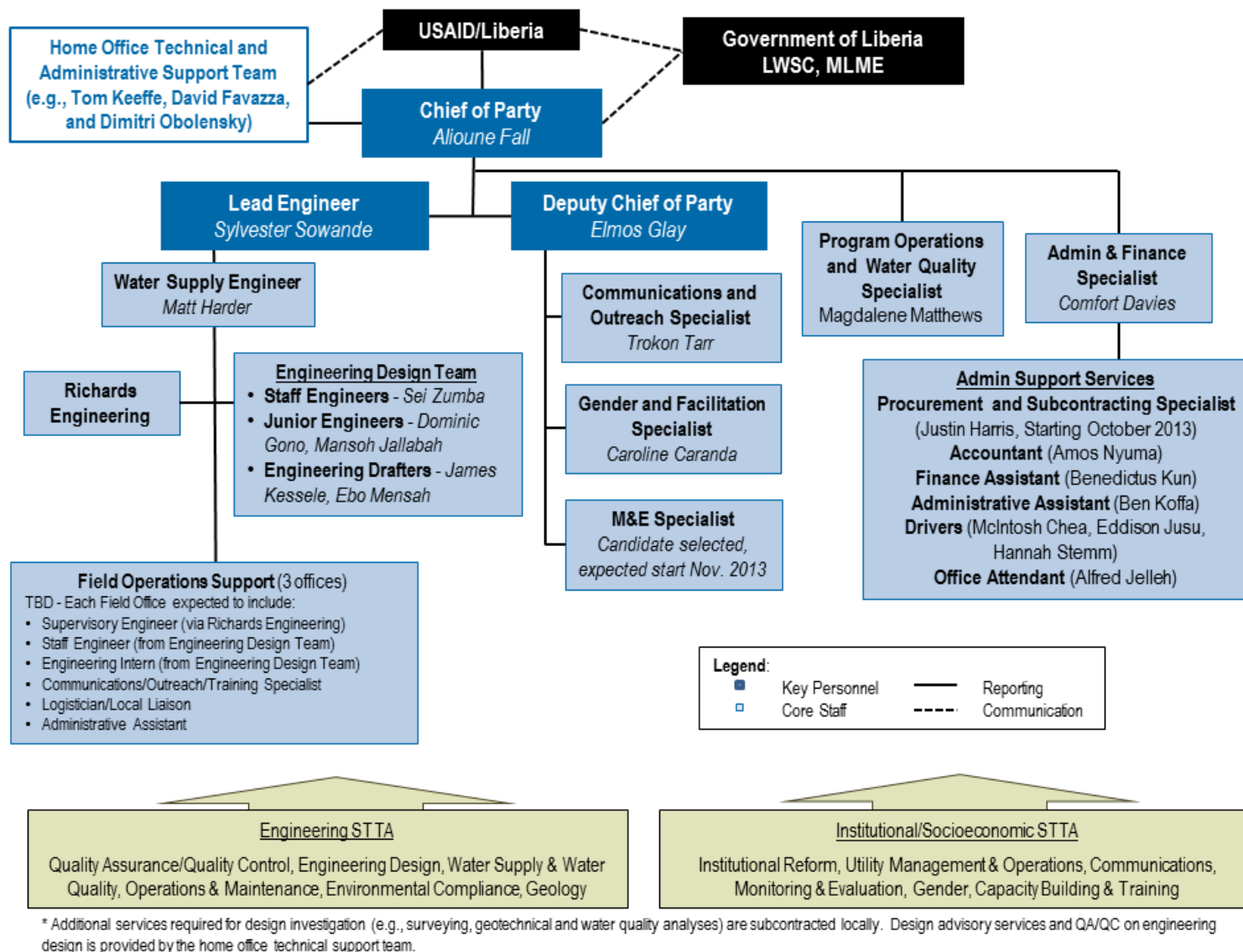
All of the repair works for the fence were completed within one week of the incident to the satisfaction of the Ministry of Foreign Affairs. LMWP COP took part in the funeral ceremonies for the person that was fatally wounded from the accident. The insurance company has reimbursed for the damaged vehicle and a replacement new vehicle has been ordered.

8.4 PROJECT MONITORING

LMWP submitted an updated Performance Monitoring Plan (PMP) in October 2015 to capture current data management and reporting processes and to respond to comments provided by USAID/Liberia in July 2013 and subsequent discussions with USAID.

In September 2013, LMWP implemented of Tetra Tech's electronic Program Observation Reporting and Tracking (ePORT) system. ePORT is a modern approach that streamlines project information sharing, facilitates data collection and allows seamless reporting in a range of media including maps, tables and graphics for a more coordinated, yet simplified, approach to project information management. ePORT can be used in a variety of ways to improve information sharing, data quality, and adaptive management. LMWP has already begun utilizing ePORT for collection and reporting of M&E data utilizing tablet computers. This approach allows for improved data quality through automatic quality checks, better data documentation through capturing photographs and GPS coordinates of all activities, and allows for real-time analysis of progress toward indicator targets, and will facilitate reporting to LMEP and USAID. In the coming year, ePORT will also be used for household survey implementation, engineering field reports, and other activities.

Figure 8-1. LMWP Organizational Chart at End of Year 2



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